

Schematic Package Supplement to

Charley Chuck's FOOD FIGHT™

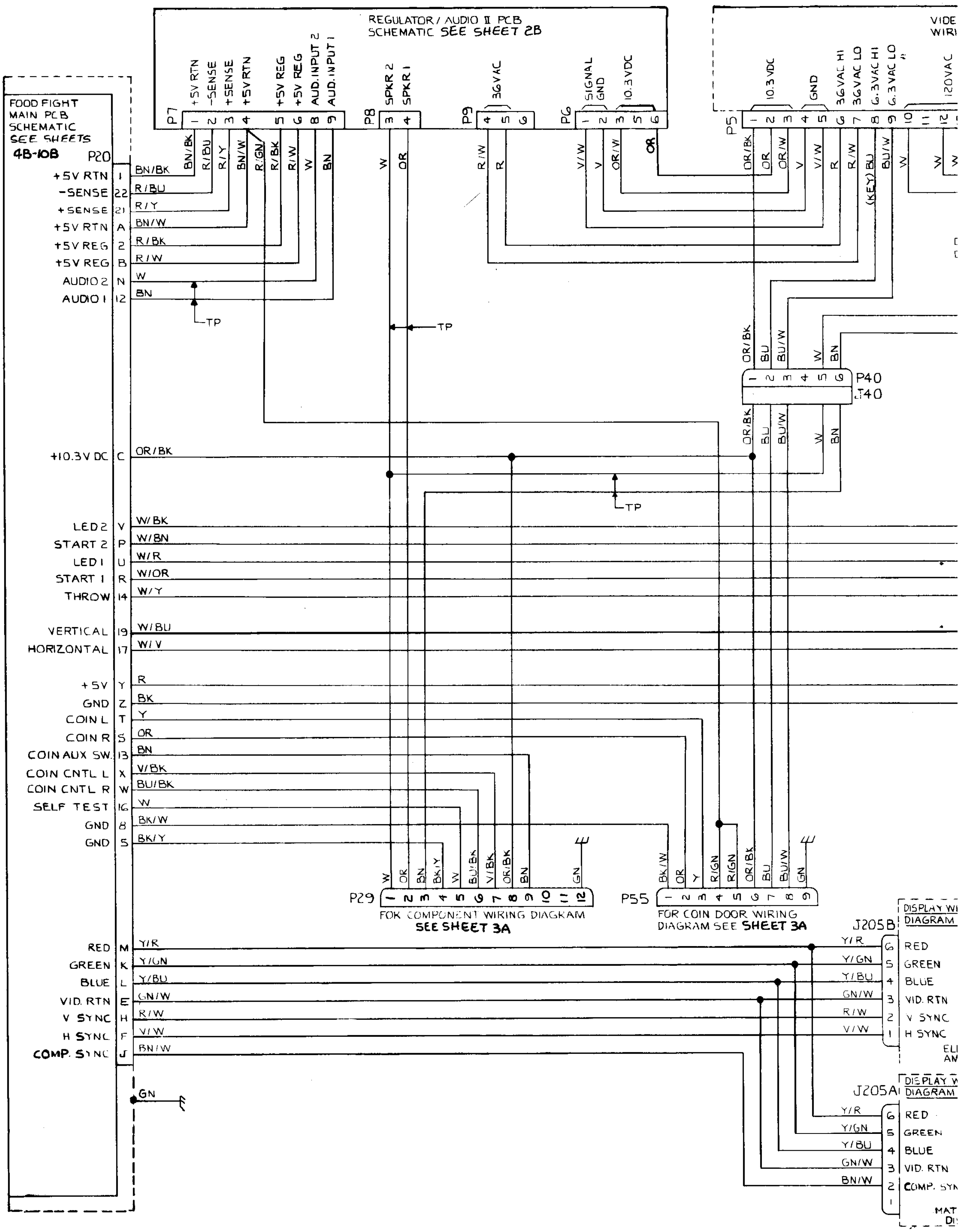
Operators Manual

2M

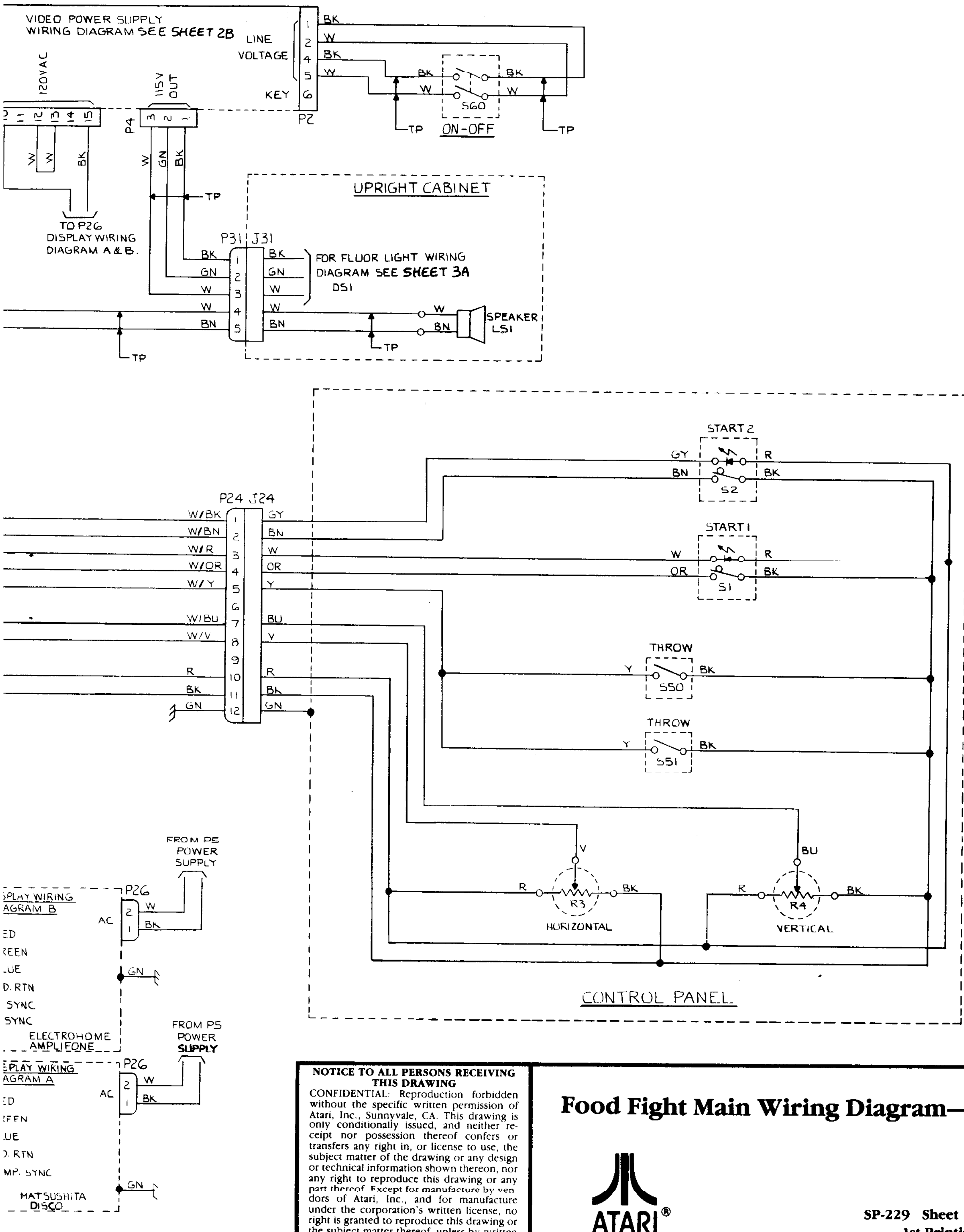
ATARI INC.,1983

SP-229 Sheet 1A
1st Printing

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H SYNC
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DISPLAY WI
DIAGRAM
J205A
DISPLAY W
DIAGRAM
VID. RTN
COMP. SYN



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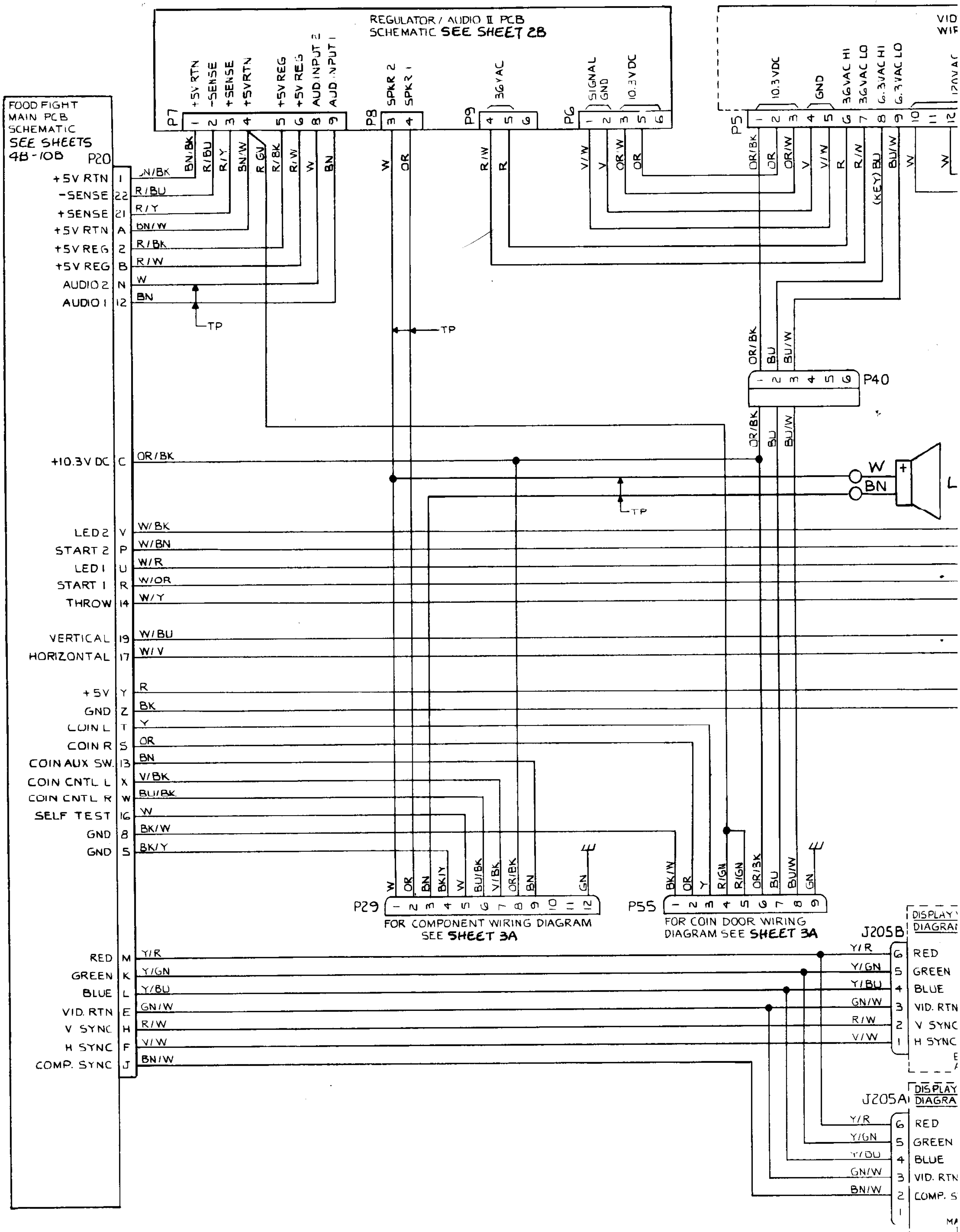
Food Fight Main Wiring Diagram—US

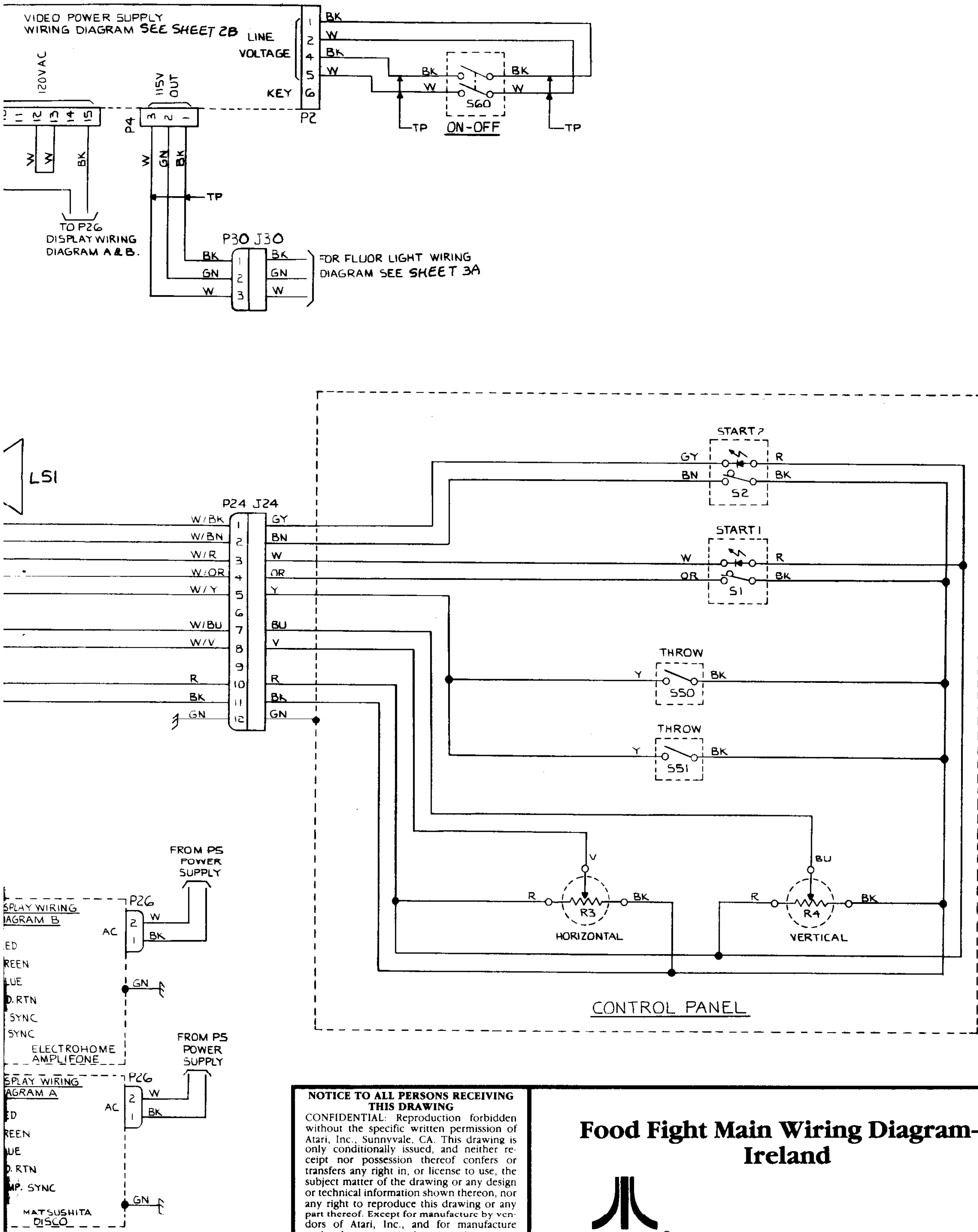
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REGULATOR / AUDIO II PCB
SCHEMATIC SEE SHEET 2B
FOOD FIGHT
MAIN PCB
SCHEMATIC
SEE SHEETS
4B-10B
P20
P7
+5V RTN
-SENSE
+SENSE
+5VRTN
+5V REG
+5V REG
AUD INPUT 2
AUD INPUT 1
P8
SPKR 2
SPKR 1
P9
36VAC
P6
SIGNAL GND
10.3VDC
P5
10.3VDC
GND
36VAC HI
36VAC LO
6.3VAC HI
6.3VAC LO
+5V RTN
-SENSE
+SENSE
+5V RTN
+5V REG
+5V REG
AUDIO 2
AUDIO 1
TP
P40
+10.3V DC
LED 2
START 2
LED 1
START 1
THROW
VERTICAL
HORIZONTAL
+5V
GND
COIN L
COIN R
COIN AUX SW.
COIN CNTL L
COIN CNTL R
SELF TEST
GND
GND
P29
FOR COMPONENT WIRING DIAGRAM
SEE SHEET 3A
P55
FOR COIN DOOR WIRING
DIAGRAM SEE SHEET 3A
J205B
RED
GREEN
BLUE
VID. RTN
V SYNC
H SYNC
COMP. SYNC
J205A
RED
GREEN
BLUE
VID. RTN
COMP. S



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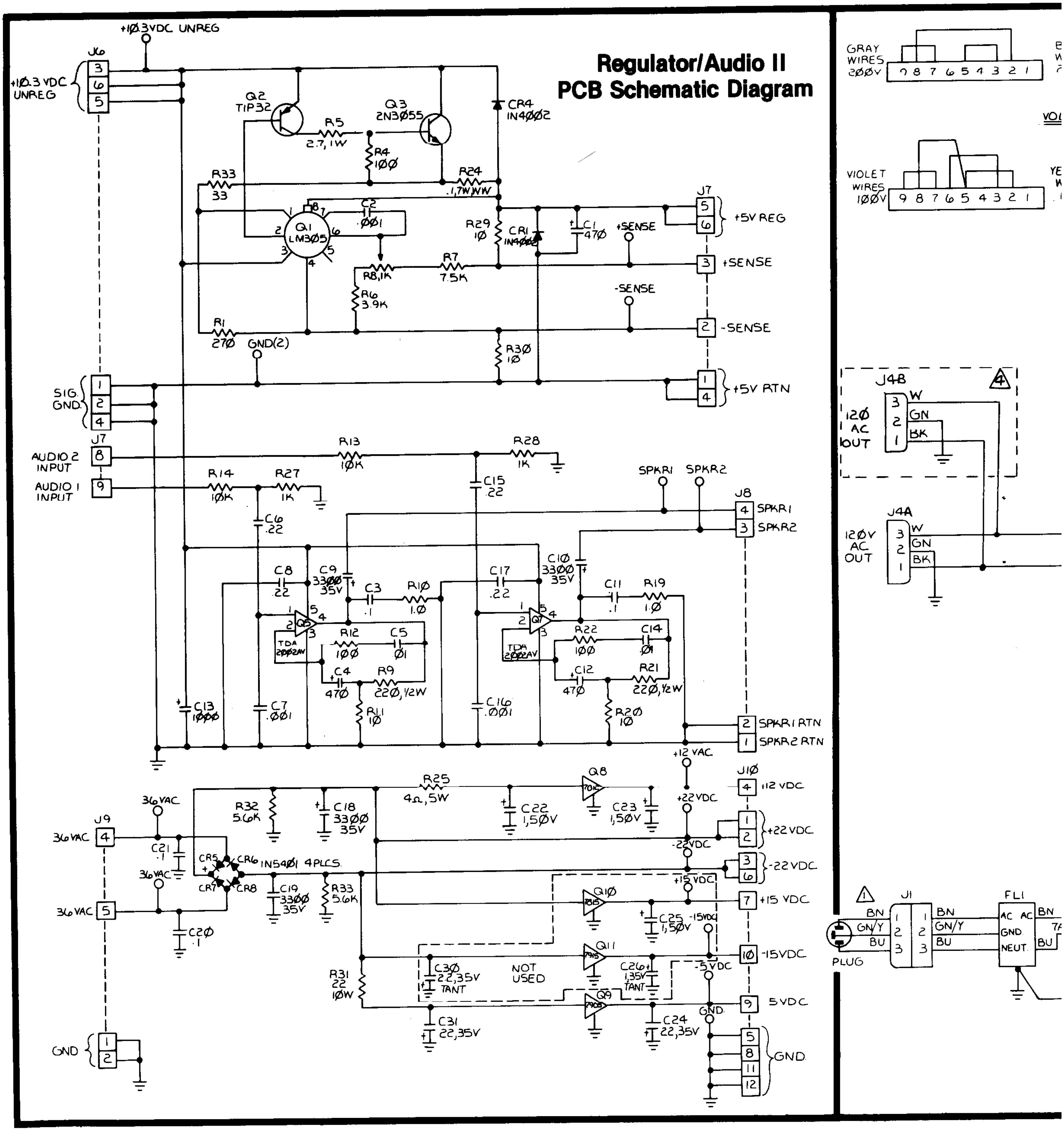
Food Fight Main Wiring Diagram—Ireland

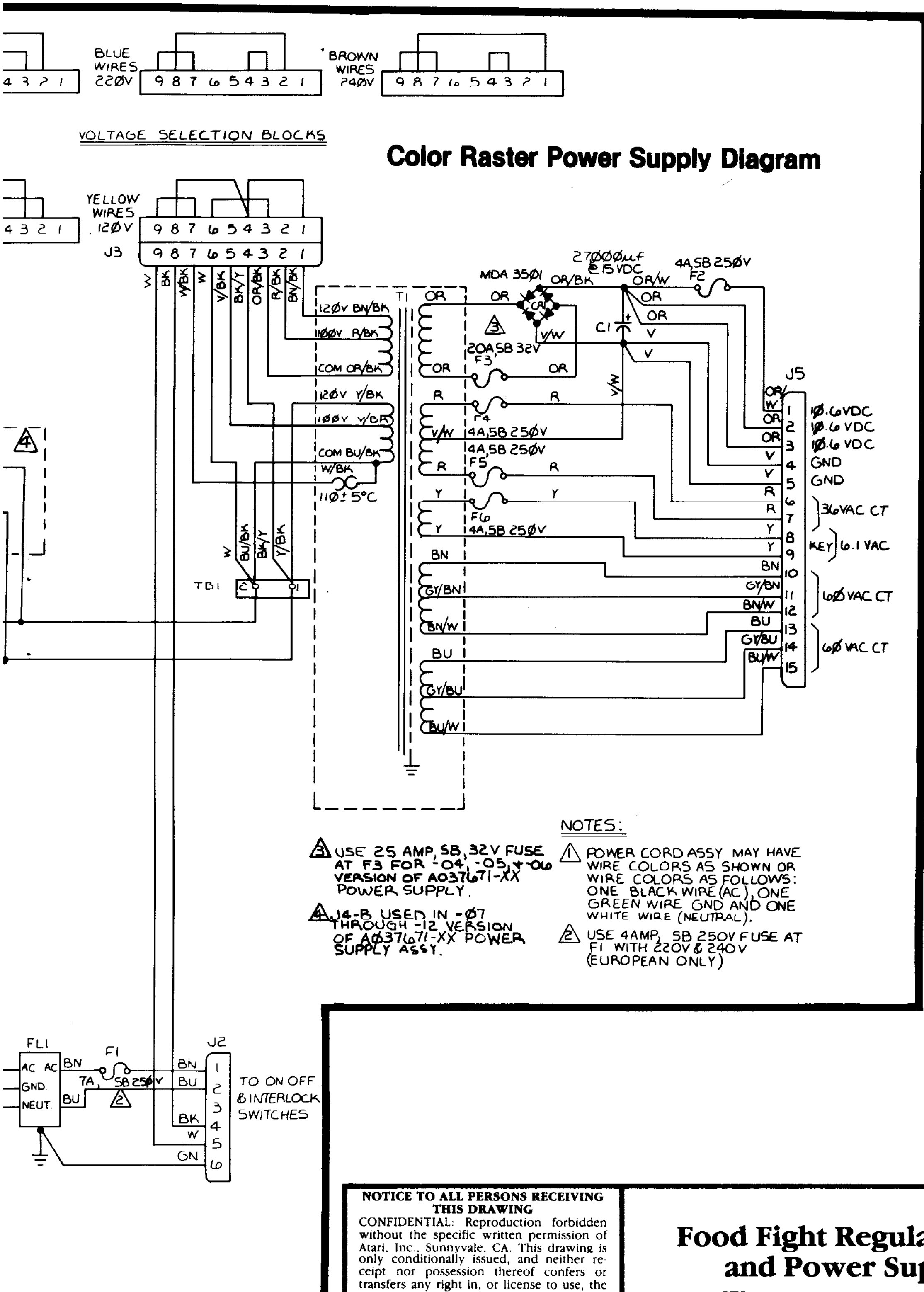
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Regulator/Audio II PCB Schematic Diagram





Color Raster Power Supply Diagram

NOTES:

1. POWER CORD ASSY MAY HAVE WIRE COLORS AS SHOWN OR WIRE COLORS AS FOLLOWS: ONE BLACK WIRE (AC), ONE GREEN WIRE GND AND ONE WHITE WIRE (NEUTRAL).
2. USE 4AMP, SB 250V FUSE AT F1 WITH 220V & 240V (EUROPEAN ONLY)
3. USE 25 AMP, SB, 32V FUSE AT F3 FOR -04, -05, + -06 VERSION OF A037671-XX POWER SUPPLY.
4. J4-B USED IN -07 THROUGH -12 VERSION OF A037671-XX POWER SUPPLY ASSY.

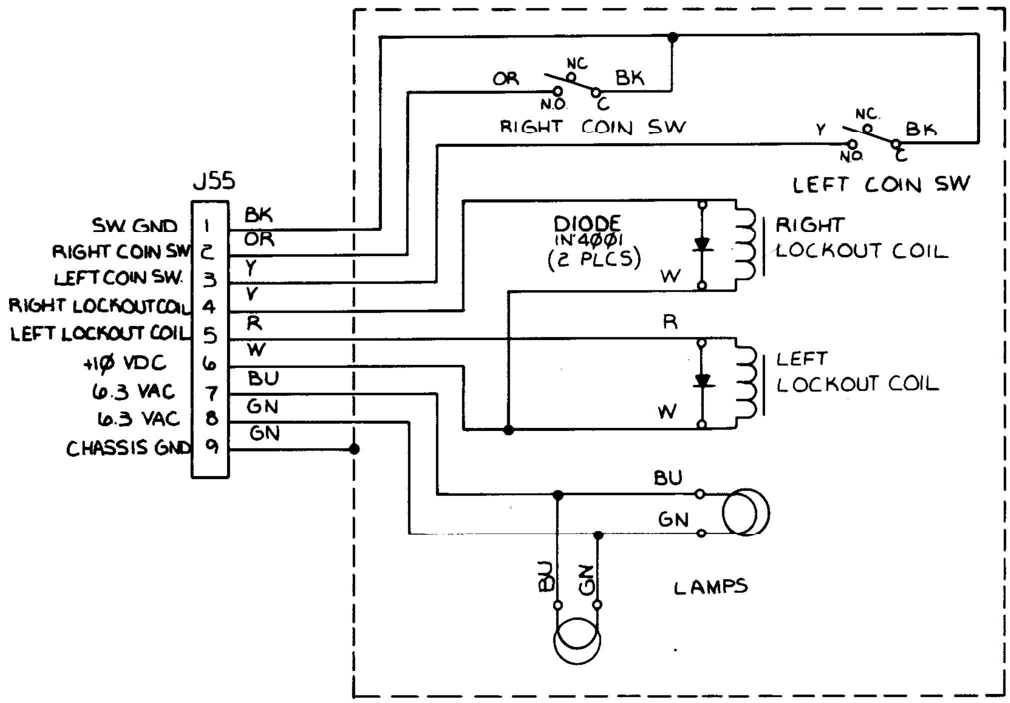
Food Fight Regulator/Audio II PCB and Power Supply Diagrams

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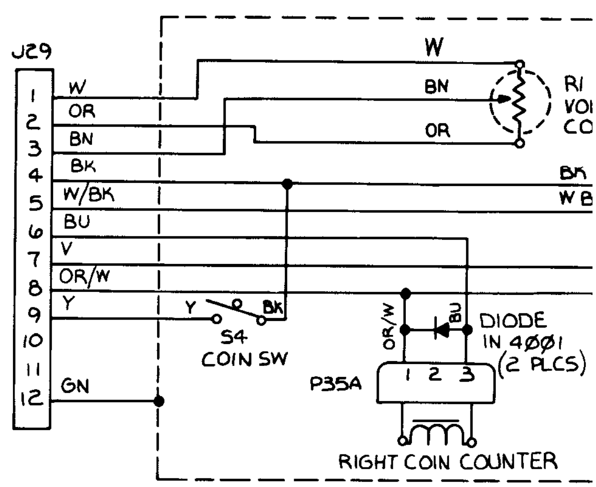
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Coin-Door Wiring Diagram

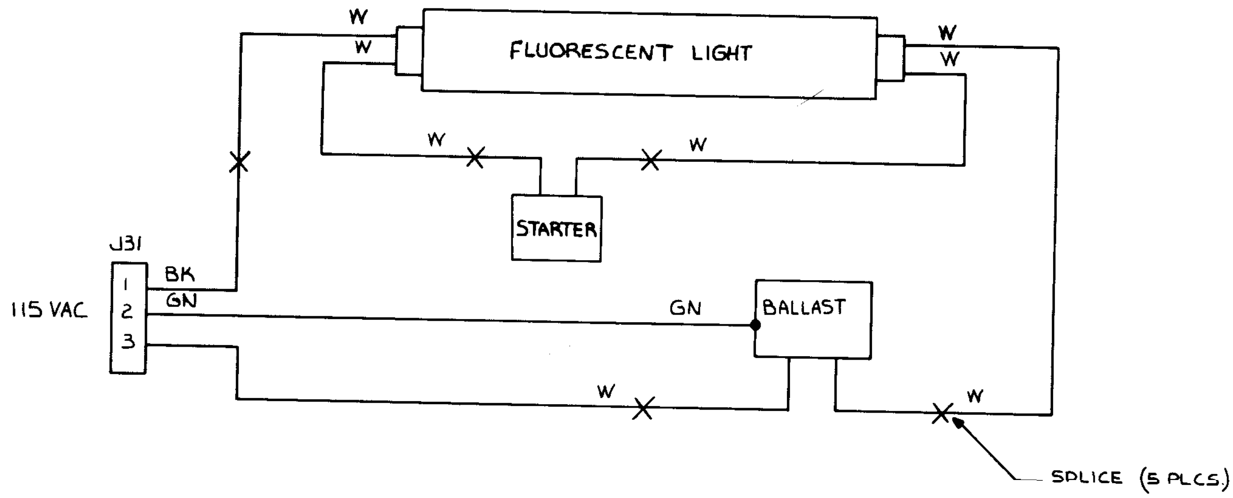




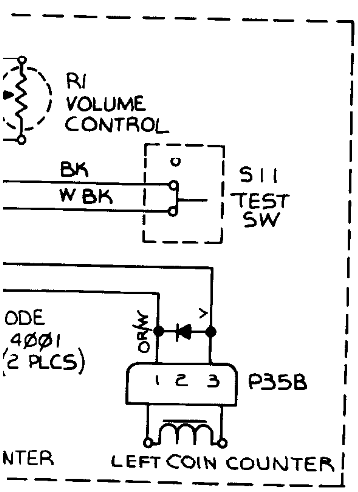
Utility Panel Wiring Dia



Fluorescent Light Wiring Diagram



ng Diagram

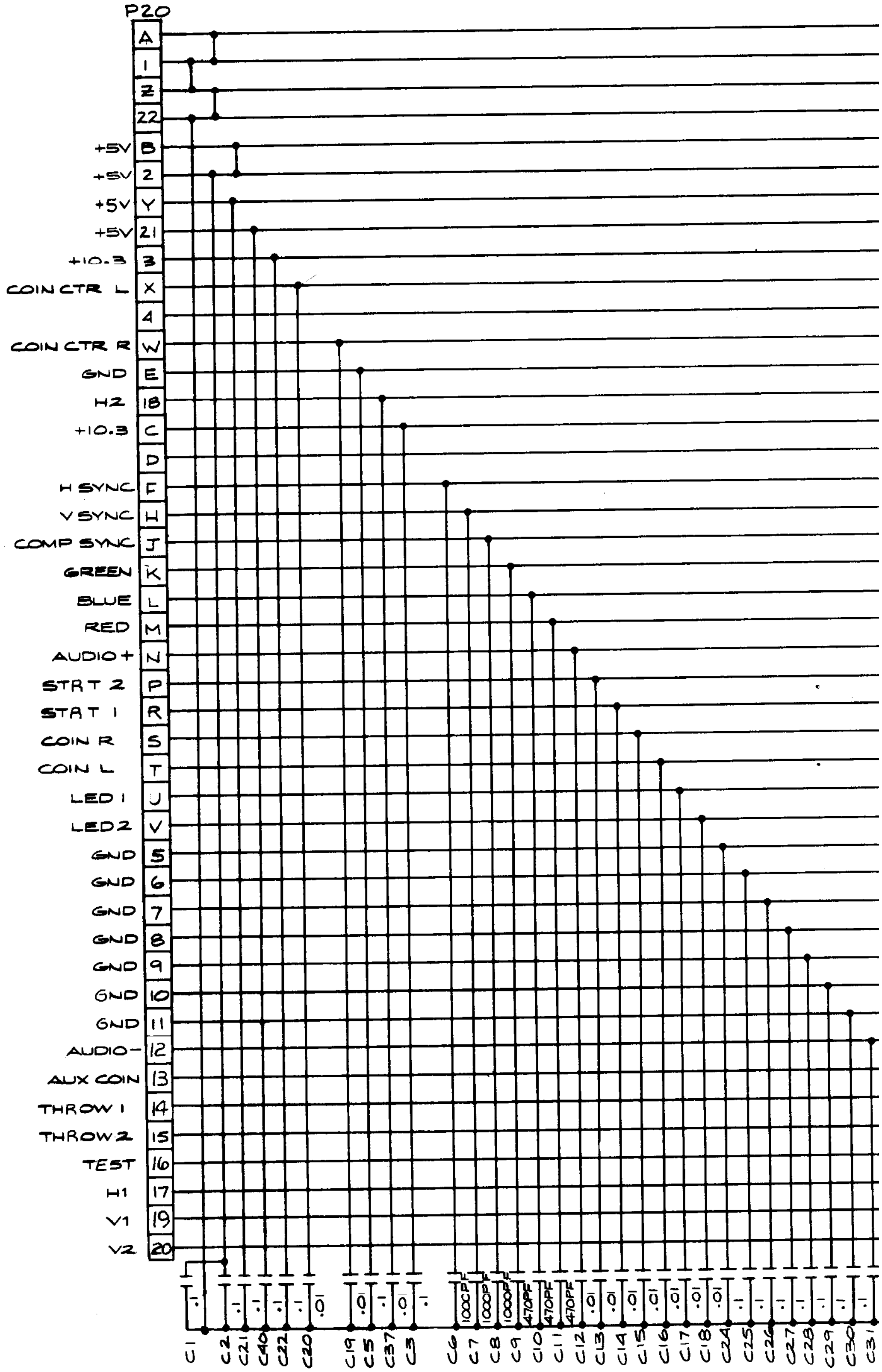


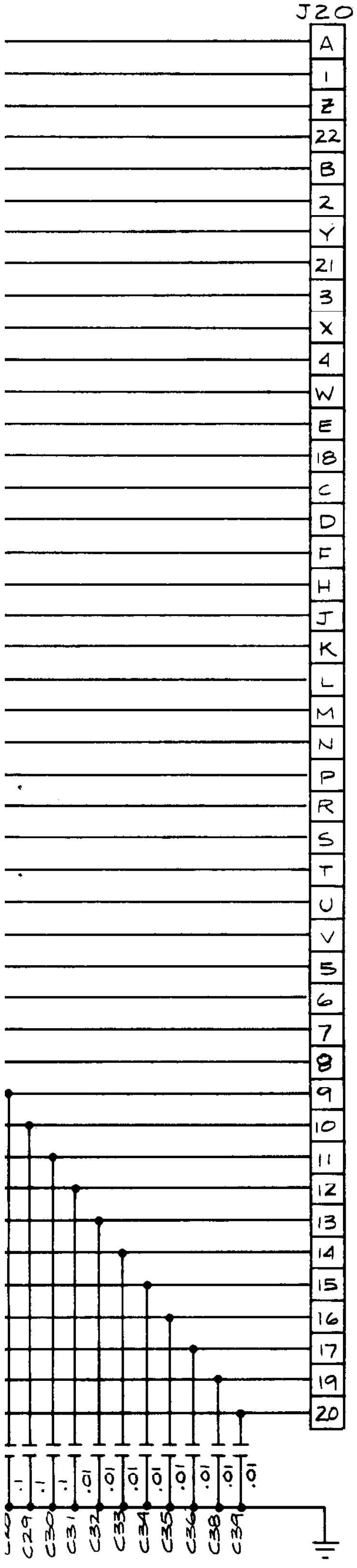
Food Fight Game Wiring Interfaces

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P20
+5V
+5V
+5V
+5V
+10.3
COIN CTR L
COIN CTR R
GND
H2
+10.3
H SYNC
V SYNC
COMP SYNC
GREEN
BLUE
RED
AUDIO +
STRT 2
STAT 1
COIN R
COIN L
LED 1
LED 2
GND
GND
GND
GND
GND
GND
GND
AUDIO −
AUX COIN
THROW 1
THROW 2
TEST
H1
V1
V2
100PF
1000PF
1000PF
470PF
470PF
470PF
C1
C2
C21
C40
C22
C20
C19
C5
C37
C3
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C24
C25
C26
C27
C28
C29
C30
C31



EMI Shield Schematic Diagram

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MEMORY I

HEXADECIMAL ADDRESS	A23	A22	A21	A20	A19	A18	A17	A16	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A(
000000-00FFFF	0	0	0	0	0	0	0	0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
014000-01BFFF	0	0	0	0	0	0	0	1	0	1	A	A	A	A	A	A	A	A	A	A	A	A	A	A
									1	0	A	A	A	A	A	A	A	A	A	A	A	A	A	A
01C000-01C0FF	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	A	A	A	A	A	A	A	A
																							0	0
																							0	1
																							1	0
																							1	0
800000-8007FF	1	0	0	0	0	0	0	0	0	0	0	0	0	A	A	A	A	A	A	A	A	A	A	A
900000-9001FF	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	A	A	A	A	A	A	A	A
940000-940007	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	A
944000-944007								0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	A	A
948000								0	1	0														
950000-9503FF	1	0	0	1	0	1	0	1	0	0	0	0	0	0	A	A	A	A	A	A	A	A	A	A
954000								1	0	1														
958000								1	1	0														
A40000-A4001F	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	A	A	A
A80000-A8001F	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	A	A	A
	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	A	A	A
000000-7FFFFF	0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
940000-97FFFF	1	0	0	1	0	1	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

(Columns A23–A0 are grouped under the heading ADDRESS BUS SIGNAL LINES.)

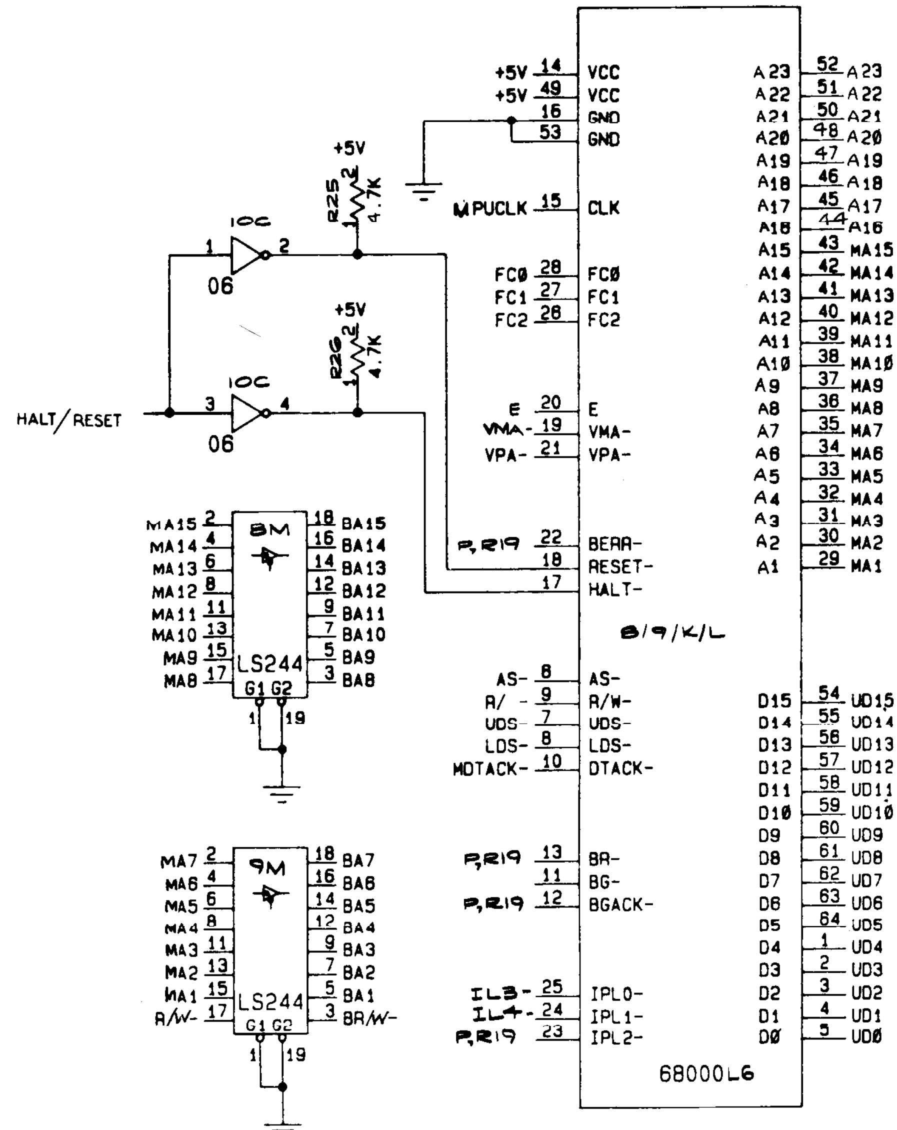
ORY MAP

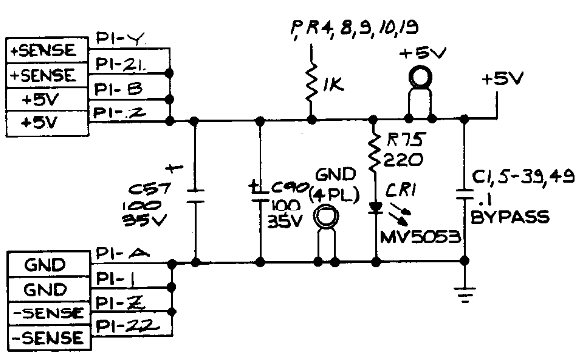
A2	A1	A0	R/W	D15	D14	D13	D12	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1	D0	FUNCTION
				DATA BUS SIGNAL LINES																
A	A	A	R	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PROGRAM ROM
A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PROGRAM RAM
A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PROGRAM RAM
A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	MOTION OBJECT RAM
	0	0										D	D	D	D	D	D	D	D	VERTICAL POSITION
	0	1		D	D	D	D	D	D	D	D									HORIZONTAL POSITION
	1	0									D	D	D	D	D	D	D	D		PICTURE
	1	0		D	D	D	D	D	D	D	D									COLOR
A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PLAYFIELD
A	A	A	R/W													D	D	D	D	NVRAM
A	A	A	R									D	D	D	D	D	D	D	D	ANALOG IN
A	A	A	W																	ANALOG OUT
			R																D	COIN 1 (DIGITAL IN)
			R															D		COIN 2
			R														D			START 1
			R													D				START 2
			R												D					COIN AUX
			R											D						THROW 1
			R										D							THROW 2
			R									D								TEST
			W																D	PFFLIP
			W															D		UPDATE
			W														D			INT3RST
			W													D				INT4RST
			W												D					LED 1
			W											D						LED 2
			W										D							COUNTERL
			W									D								COUNTERR
A	A	A	W									D	D	D	D	D	D	D	D	COLORAM
			W																	RECALL
			W																	WATCHDOG
A	A	A	R/W									D	D	D	D	D	D	D	D	AUDIO 1
A	A	A	R/W									D	D	D	D	D	D	D	D	AUDIO 0
A	A	A	R/W									D	D	D	D	D	D	D	D	AUDIO 2
A	A	A	R/W																	DTACK
A	A	A	R/W																	VPA

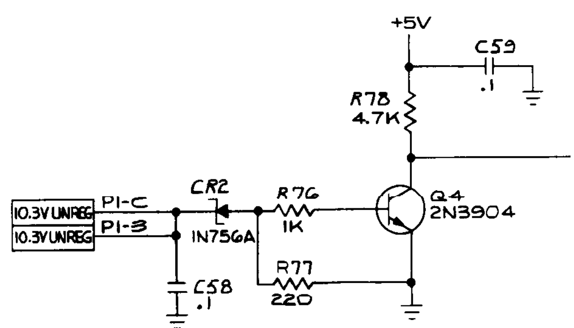
Food Fight Memory Map

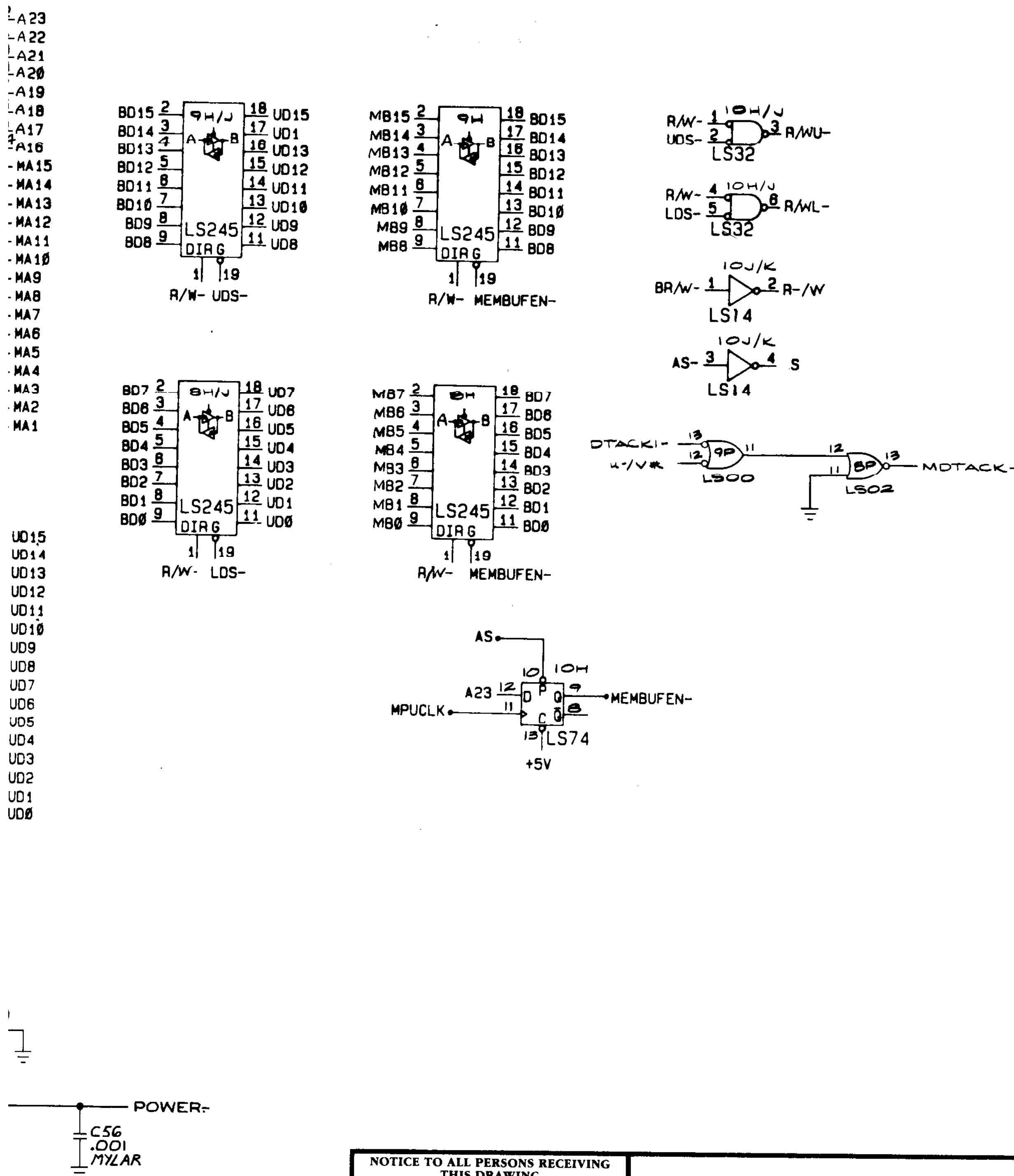
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SP-229 Sheet 4A
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+5V 14 VCC
+5V 49 VCC
16 GND
53 GND
MPUCLK 15 CLK
FC0 28 FC0
FC1 27 FC1
FC2 28 FC2
E 20 E
VMA- 19 VMA-
VPA- 21 VPA-
P,R19 22 BERR-
18 RESET-
17 HALT-
8/9/K/L
AS- 6 AS-
R/ - 9 R/W-
UDS- 7 UDS-
LDS- 8 LDS-
MDTACK- 10 DTACK-
P,R19 13 BR-
11 BG-
P,R19 12 BGACK-
IL3- 25 IPL0-
IL4- 24 IPL1-
P,R19 23 IPL2-
68000L6
A23 52 A23
A22 51 A22
A21 50 A21
A20 48 A20
A19 47 A19
A18 46 A18
A17 45 A17
A16 44 A16
A15 43 MA15
A14 42 MA14
A13 41 MA13
A12 40 MA12
A11 39 MA11
A10 38 MA10
A9 37 MA9
A8 36 MA8
A7 35 MA7
A6 34 MA6
A5 33 MA5
A4 32 MA4
A3 31 MA3
A2 30 MA2
A1 29 MA1
D15 54 UD15
D14 55 UD14
D13 56 UD13
D12 57 UD12
D11 58 UD11
D10 59 UD10
D9 60 UD9
D8 61 UD8
D7 62 UD7
D6 63 UD6
D5 64 UD5
D4 1 UD4
D3 2 UD3
D2 3 UD2
D1 4 UD1
D0 5 UD0
+5V
R25 4.7K
+5V
R26 4.7K
10C
06
HALT/RESET
8M
LS244
MA15 2 18 BA15
MA14 4 16 BA14
MA13 6 14 BA13
MA12 8 12 BA12
MA11 11 9 BA11
MA10 13 7 BA10
MA9 15 5 BA9
MA8 17 3 BA8
G1 G2
9M
LS244
MA7 2 18 BA7
MA6 4 16 BA6
MA5 6 14 BA5
MA4 8 12 BA4
MA3 11 9 BA3
MA2 13 7 BA2
MA1 15 5 BA1
R/W- 17 3 BR/W-
G1 G2


+SENSE P1-Y
+SENSE P1-21
+5V P1-B
+5V P1-2
P,R4,8,9,10,19
1K
+5V
+5V
R75 220
CR1
MV5053
C57 100 35V
C90 100 35V
GND (4PL)
C1,5-39,49 .1 BYPASS
GND P1-A
GND P1-1
-SENSE P1-Z
-SENSE P1-22


+5V
C59 .1
R78 4.7K
10.3V UNREG P1-C
10.3V UNREG P1-3
CR2
IN756A
R76 1K
Q4 2N3904
R77 220
C58 .1



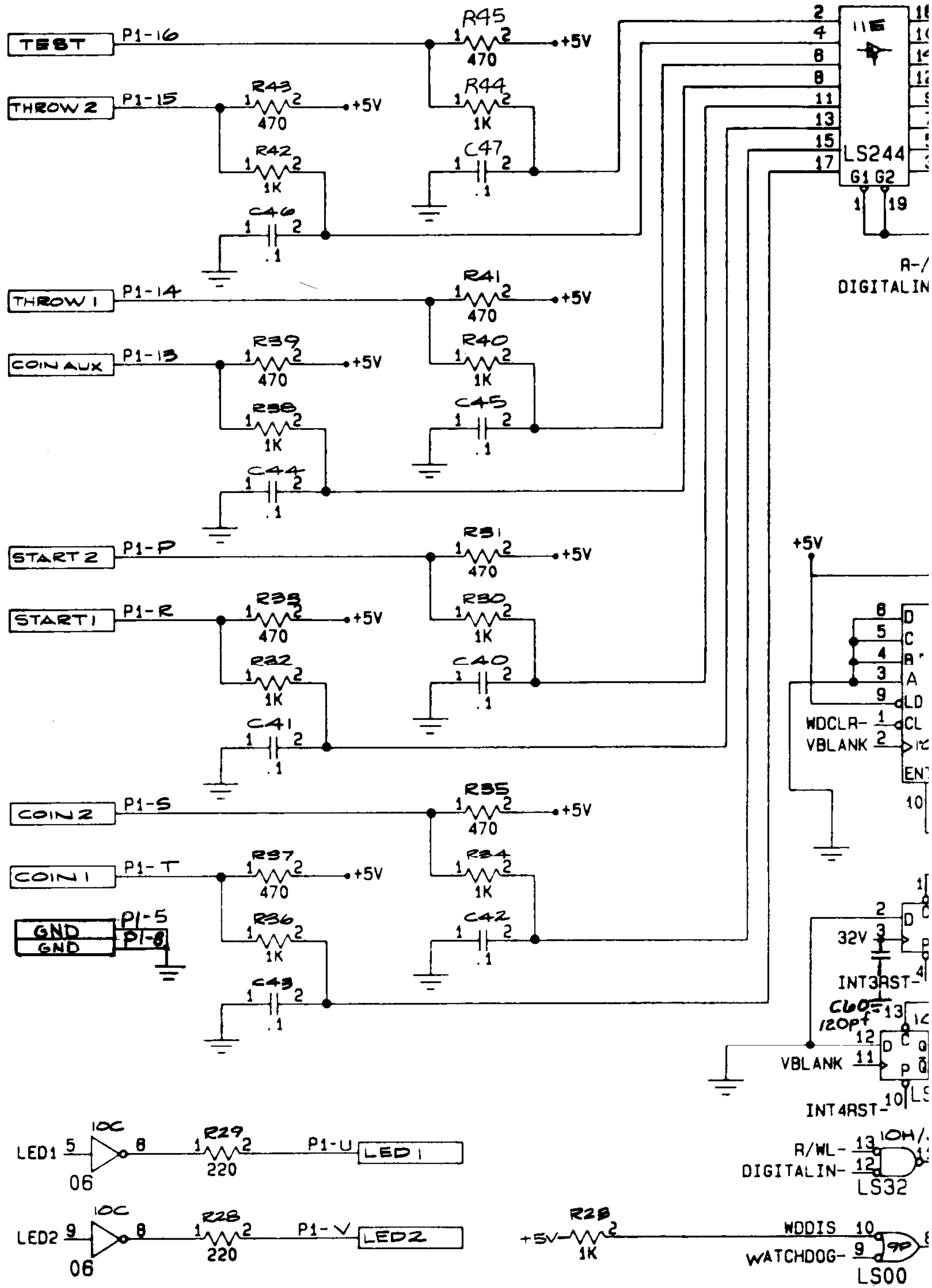
Food Fight Power/Ground and CPU Schematic Diagram

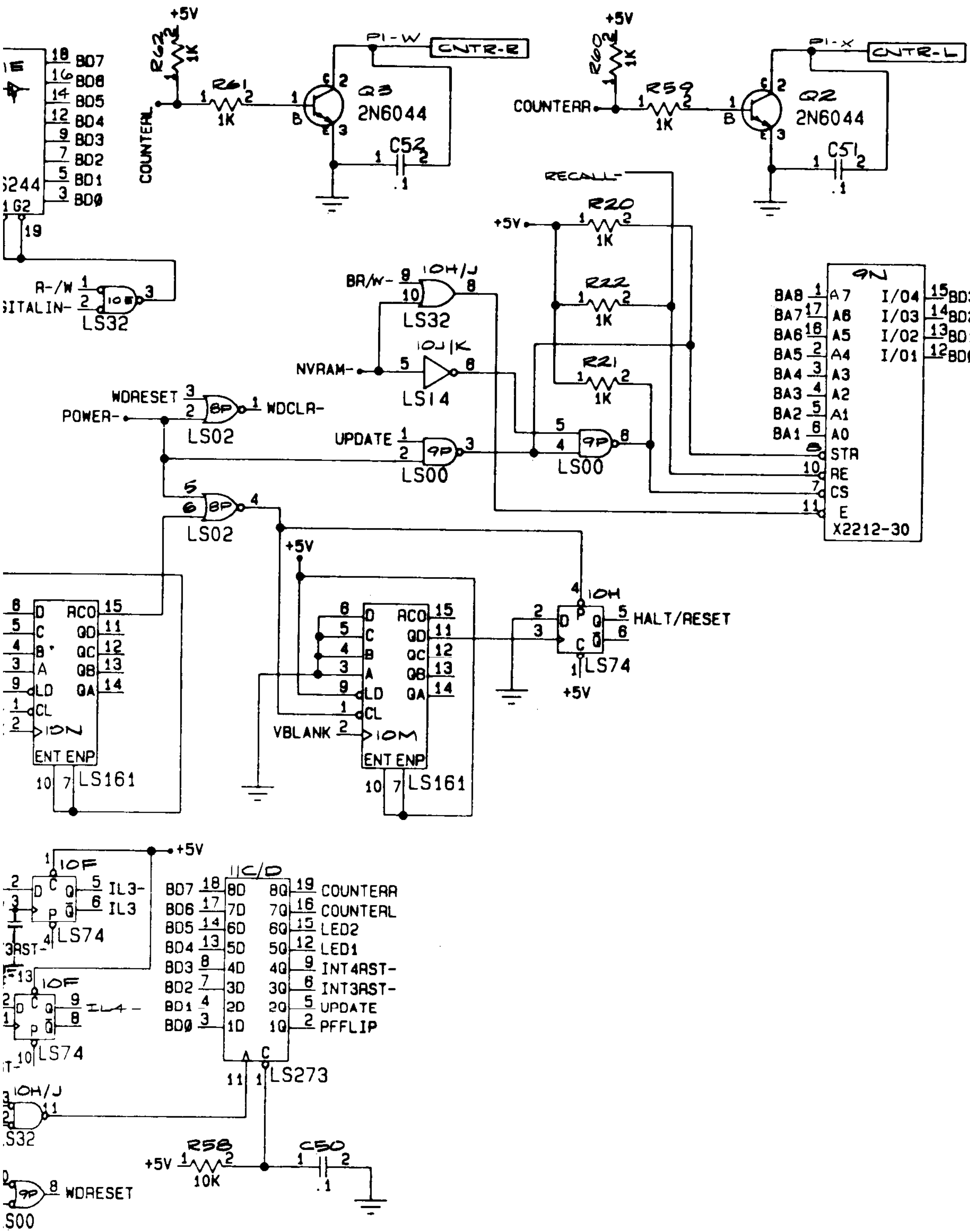
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SP-229 Sheet 4B

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TEST
P1-16
R45
470
+5V
R44
1K
C47
.1
THROW 2
P1-15
R43
R42
C46
THROW 1
P1-14
R41
COIN AUX
P1-13
R39
R40
C45
R38
C44
START 2
P1-P
R51
START 1
P1-R
R33
R30
C40
R32
C41
COIN 2
P1-S
R35
COIN 1
P1-T
R37
R34
C42
R36
C43
GND
P1-5
P1-8
11E
LS244
G1 G2
19
DIGITALIN
WDCLR-
VBLANK
32V
INT3RST-
C60
120pf
INT4RST-
R/WL-
DIGITALIN-
10H
LS32
LED1
10C
06
R29
220
P1-U
LED 1
LED2
R28
P1-V
LED 2
WDDIS
WATCHDOG-
LS00
9D



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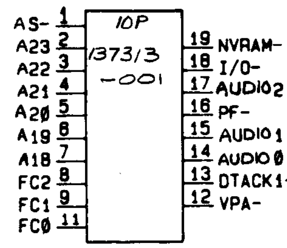
Food Fight Reset and Digital I/O Schematic Diagram

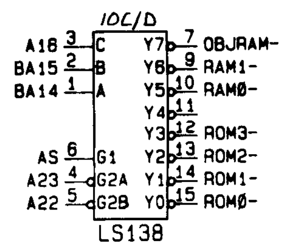
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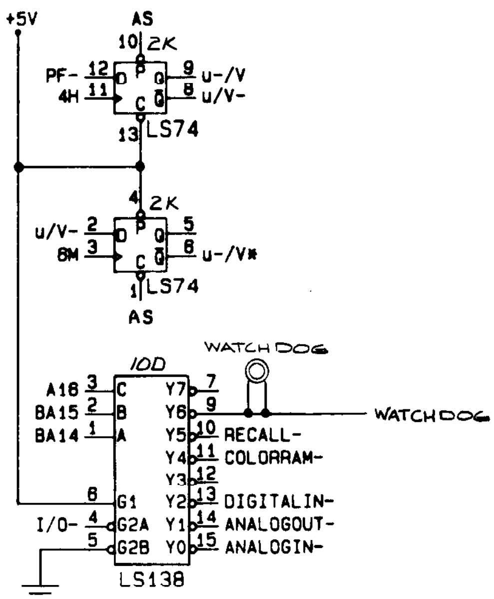
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SP-229 Sheet 5A

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10P
1373/3
-001
AS-
A23
A22
A21
A20
A19
A18
FC2
FC1
FC0
NVRAM-
I/O-
AUDIO2
PF-
AUDIO1
AUDIO0
DTACK1-
VPA-


10C/D
A18
BA15
BA14
AS
A23
A22
C
B
A
G1
G2A
G2B
Y7
Y6
Y5
Y4
Y3
Y2
Y1
Y0
OBJRAM-
RAM1-
RAM0-
ROM3-
ROM2-
ROM1-
ROM0-
LS138



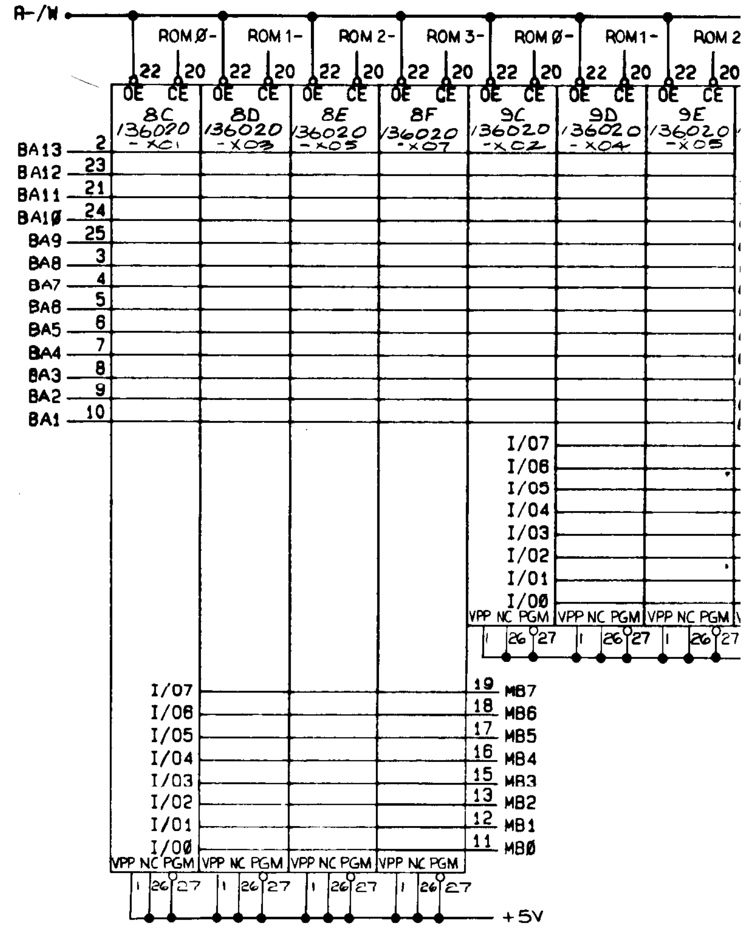
Food Fight Address Decoder Schematic Diagram

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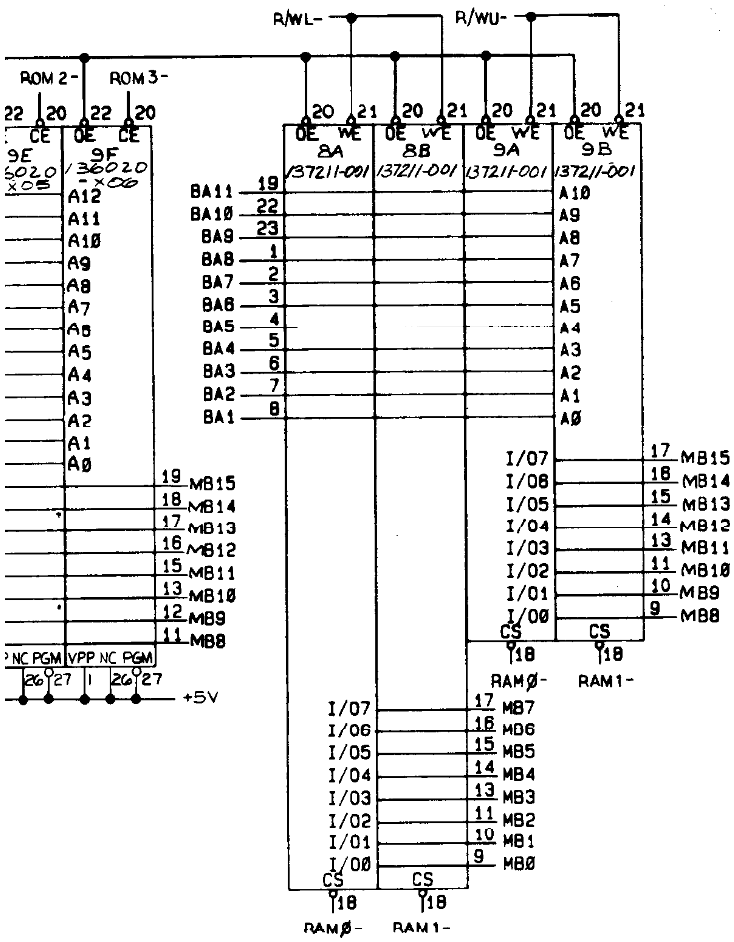
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R-/W
ROM Ø-
ROM 1-
ROM 2-
ROM 3-
8C 136020 -XC1
8D 136020 -X03
8E 136020 -X05
8F 136020 -X07
9C 136020 -X02
9D 136020 -X04
9E 136020 -X05
BA13
BA12
BA11
BA1Ø
BA9
BA8
BA7
BA6
BA5
BA4
BA3
BA2
BA1
MB7
MB6
MB5
MB4
MB3
MB2
MB1
MBØ
+5V



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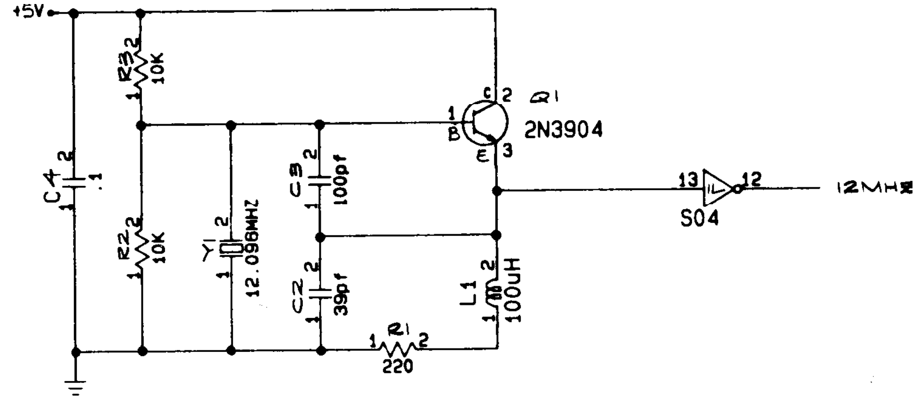
Food Fight Memory Schematic Diagram

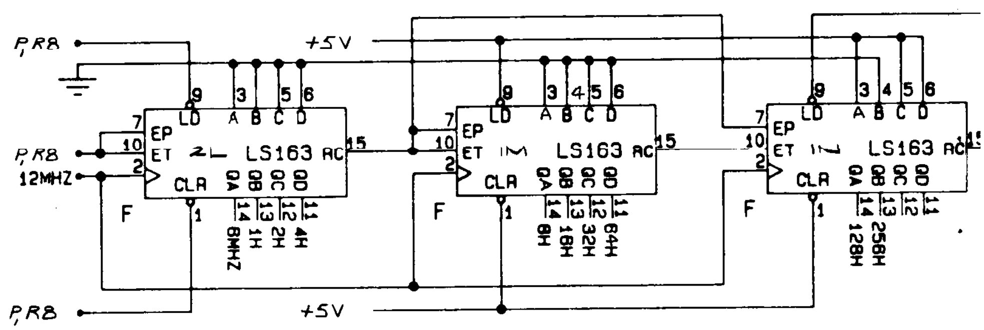
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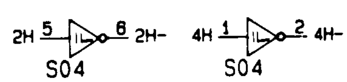
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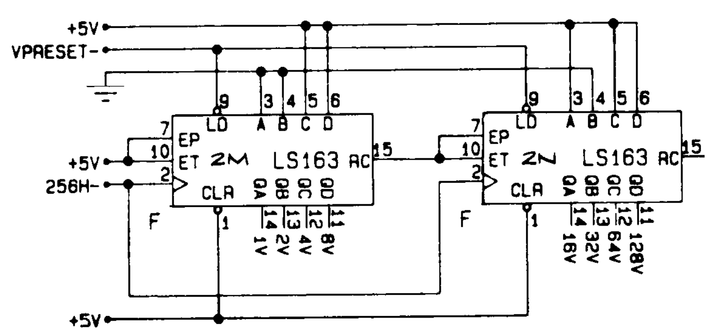
SP-229 Sheet 6A

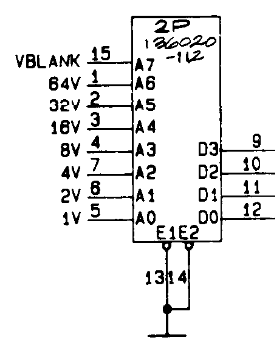
1st Printing

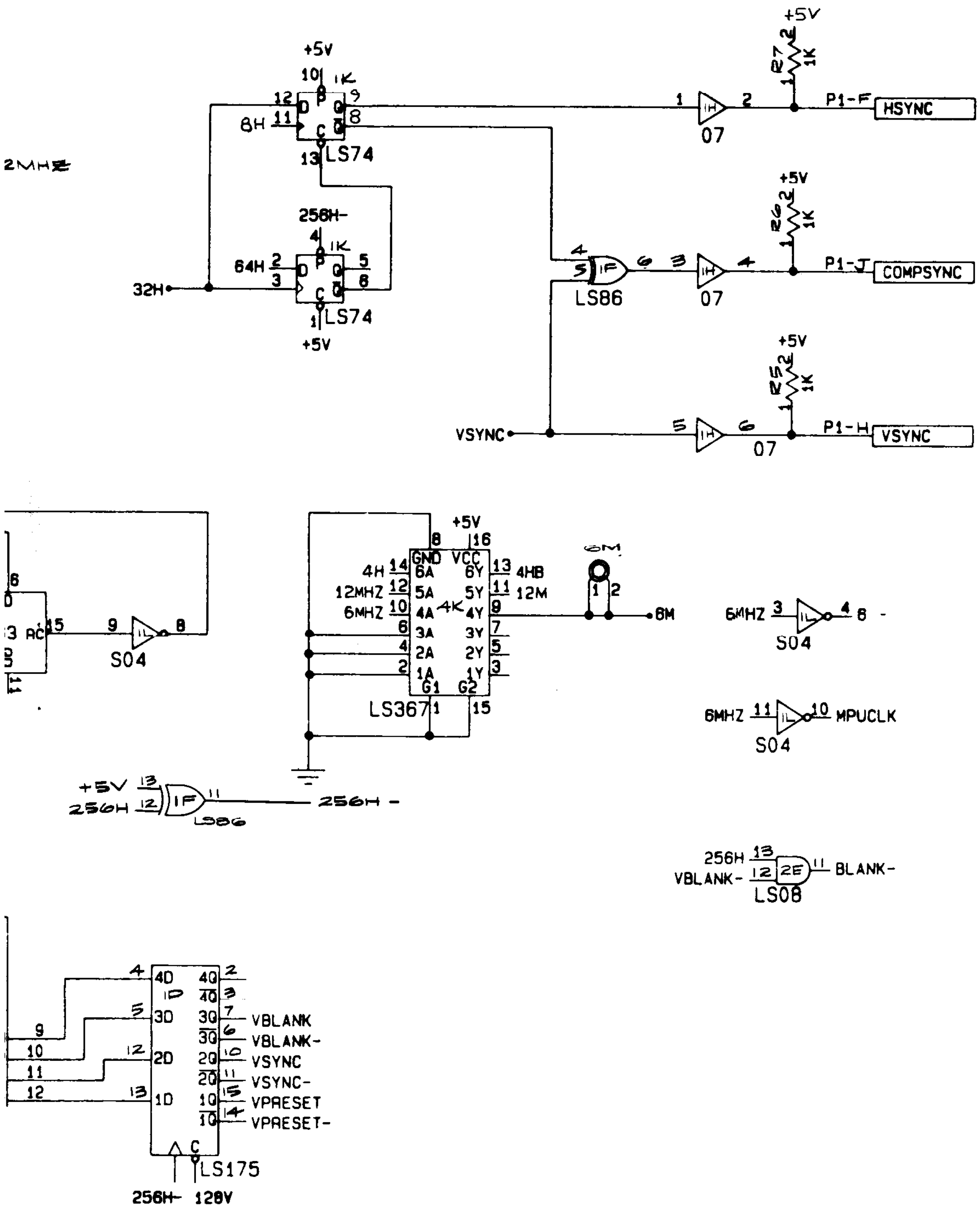

+5V
R3 10K
R2 10K
C4 .1
Y1 12.096MHZ
C3 100pf
C2 39pf
Q1 2N3904
L1 100uH
R1 220
S04
12MHZ


PR8
+5V
12MHZ
LS163
2L
1M
1N
LD A B C D
EP ET CLR RC
QA QB QC QD
8MHZ 1H 2H 4H
8H 16H 32H 64H
128H 256H


2H 2H-
S04
4H 4H-
S04


+5V
VPRESET-
256H-
2M
2N
LS163
1V 2V 4V 8V
16V 32V 64V 128V


2P
136020
-112
VBLANK
64V
32V
16V
8V
4V
2V
1V
A7 A6 A5 A4 A3 A2 A1 A0
D3 D2 D1 D0
E1 E2



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING

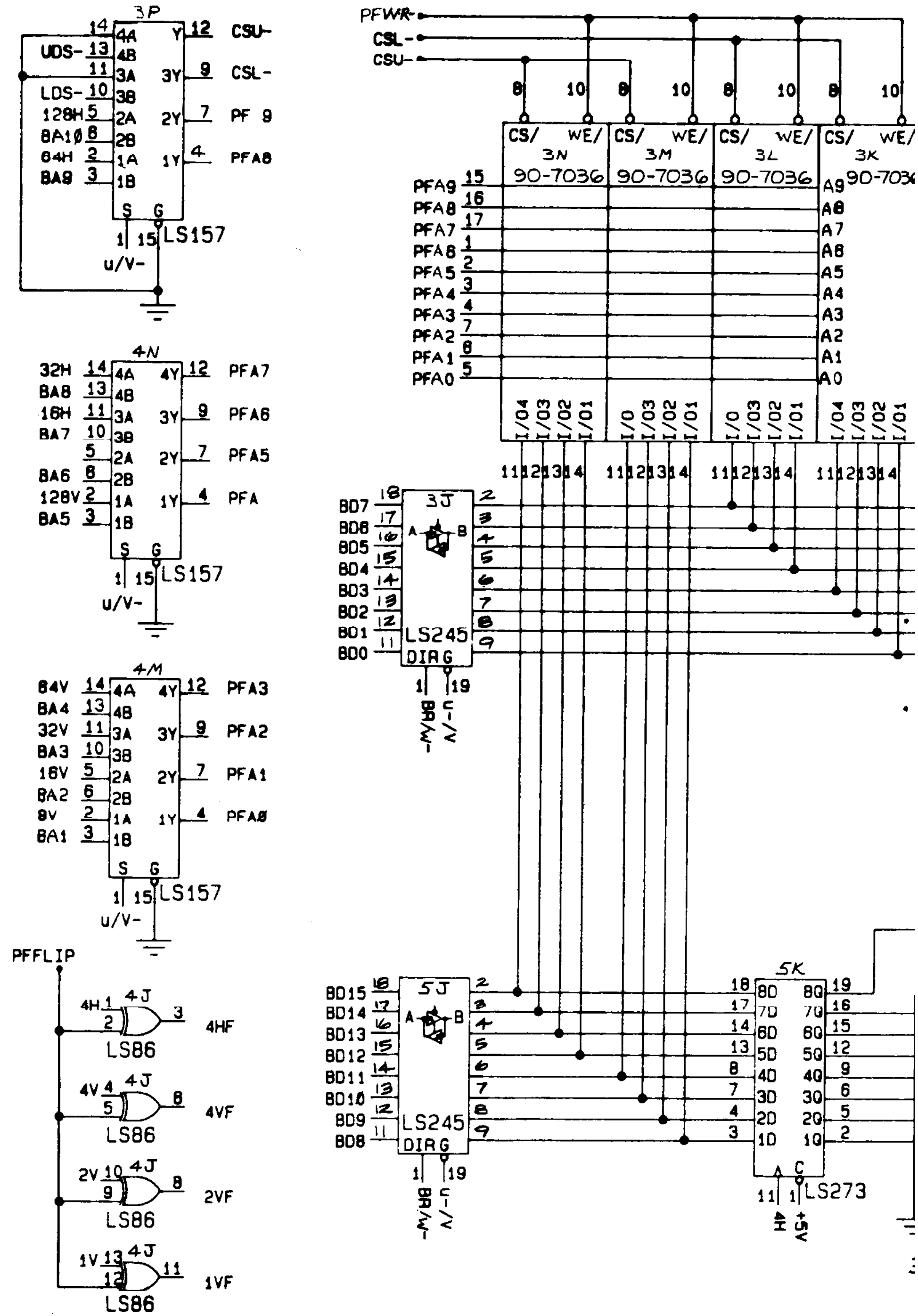
Food Fight Sync Schematic Diagram

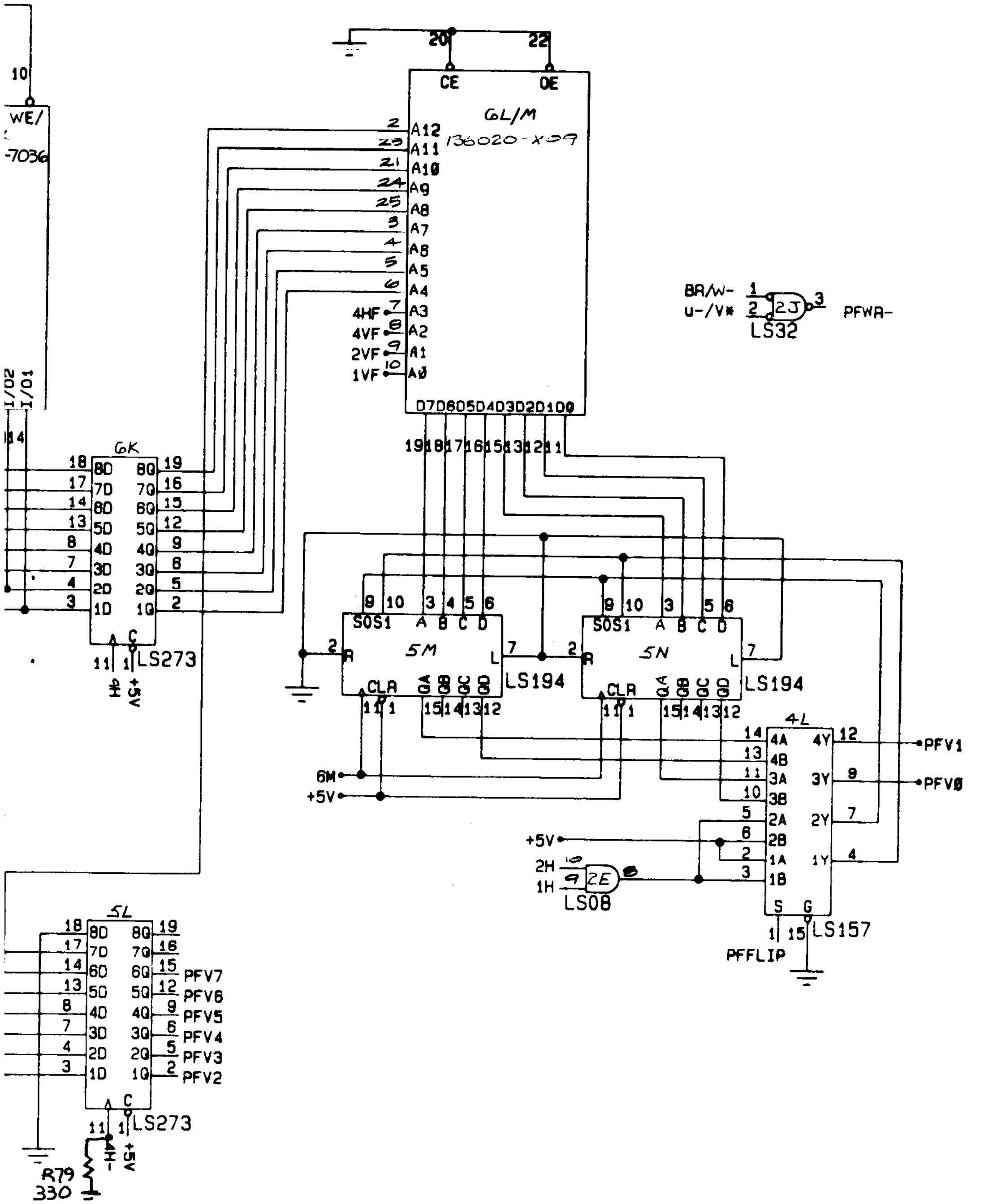
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1st Printing


3P
UDS-
LDS-
128H
BA10
64H
BA9
CSU-
CSL-
PF 9
PFA8
LS157
u/V-
4N
32H
BA8
16H
BA7
BA6
128V
BA5
PFA7
PFA6
PFA5
PFA
4M
64V
BA4
32V
BA3
16V
BA2
8V
BA1
PFA3
PFA2
PFA1
PFA0
PFFLIP
4J
4H
4HF
4V
4VF
2V
2VF
1V
1VF
LS86
PFWR-
CSL-
CSU-
CS/
WE/
3N
3M
3L
3K
90-7036
PFA9
PFA8
PFA7
PFA6
PFA5
PFA4
PFA3
PFA2
PFA1
PFA0
3J
BD7
BD6
BD5
BD4
BD3
BD2
BD1
BD0
LS245
DIR G
BR/W-
U-/V
5J
BD15
BD14
BD13
BD12
BD11
BD10
BD9
BD8
5K
LS273
4H
+5V



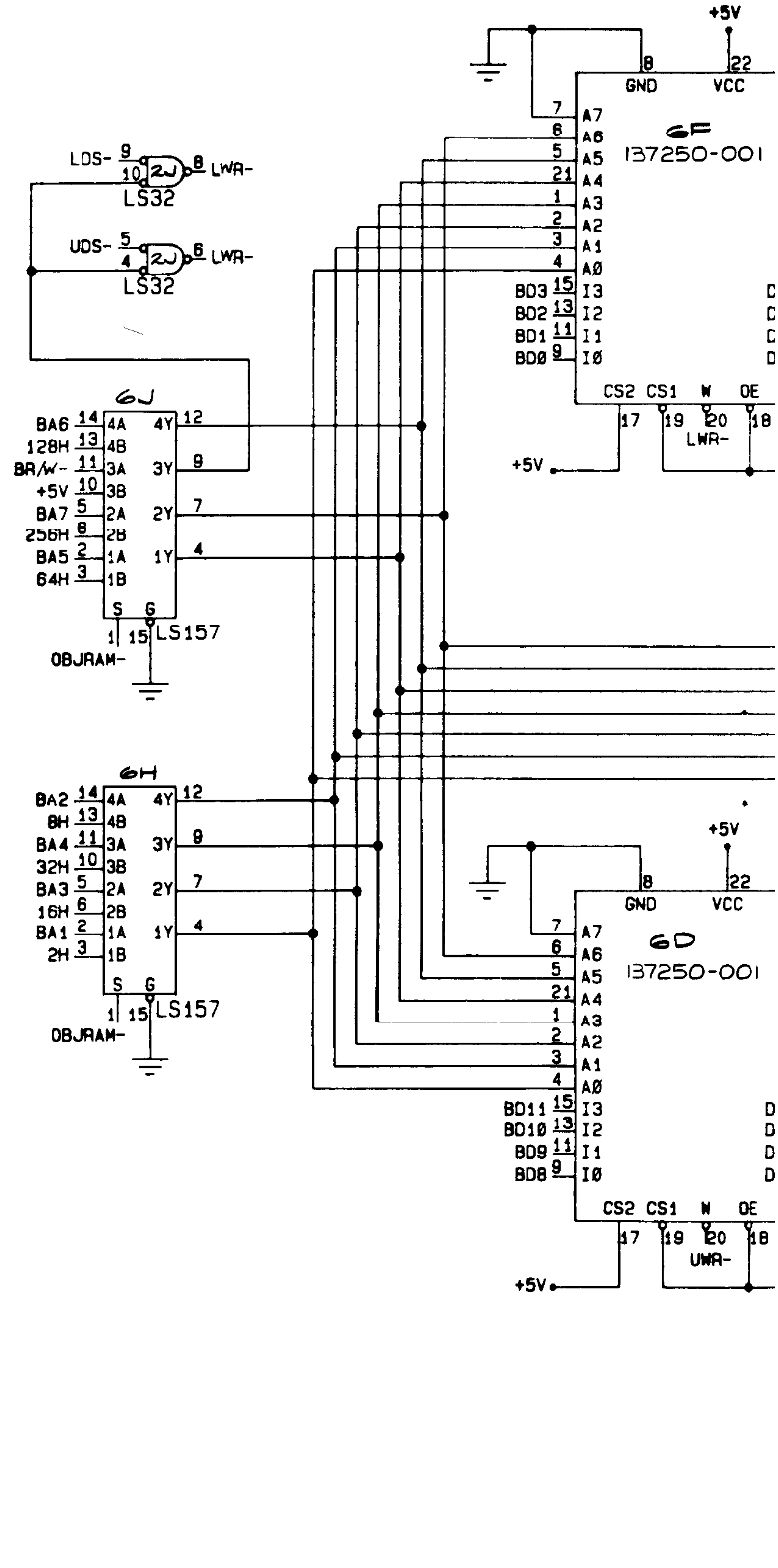
Food Fight Playfield RAM/ROM Schematic Diagram

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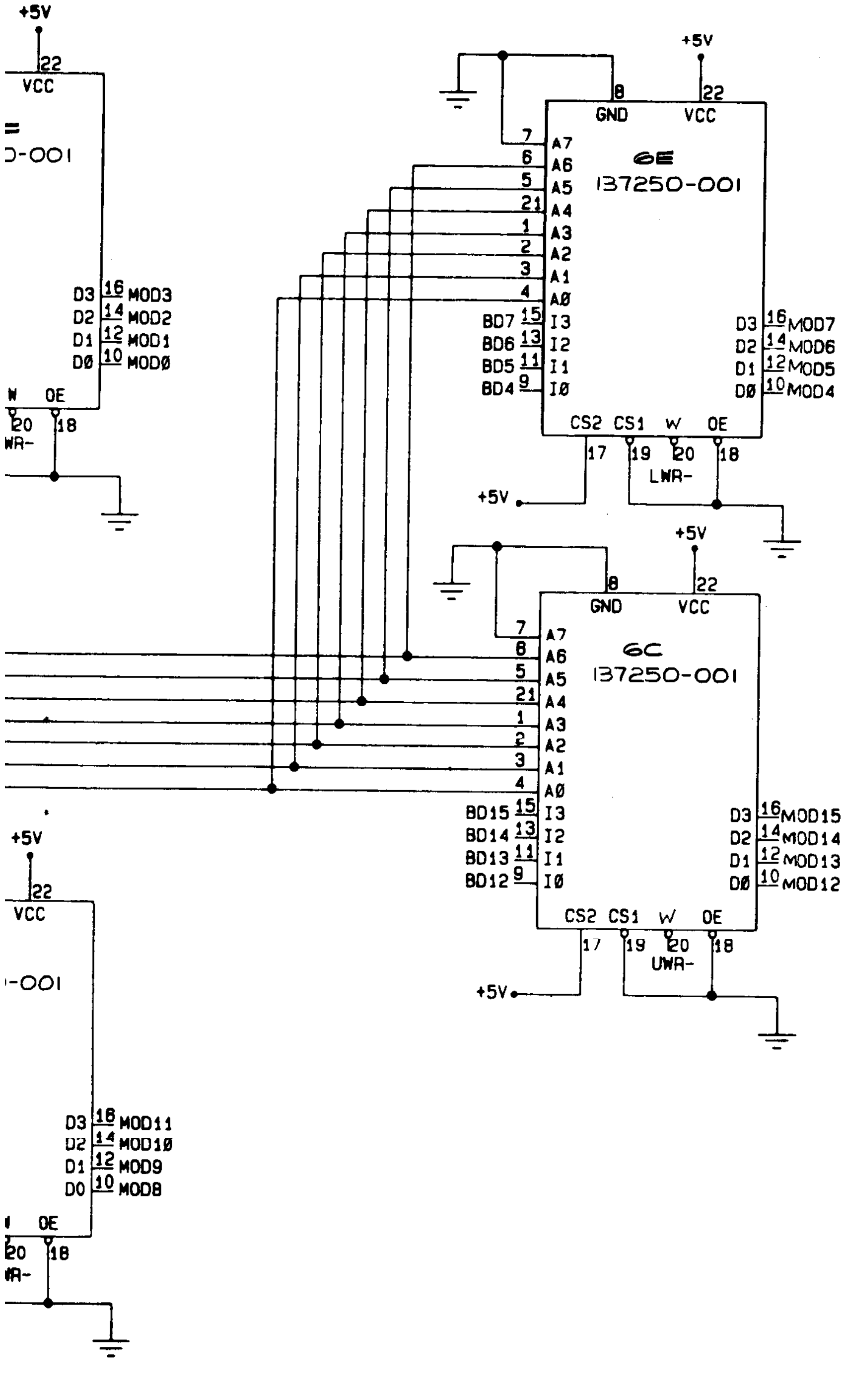
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1st Printing



LDS-
UDS-
LWR-
LS32
2J
6J
LS157
BA6
128H
BR/W-
+5V
BA7
256H
BA5
64H
OBJRAM-
6H
BA2
8H
BA4
32H
BA3
16H
BA1
2H
6F
137250-001
6D
GND
VCC
A7
A6
A5
A4
A3
A2
A1
AØ
BD3
BD2
BD1
BDØ
BD11
BD10
BD9
BD8
I3
I2
I1
IØ
CS2
CS1
W
OE
UWR-



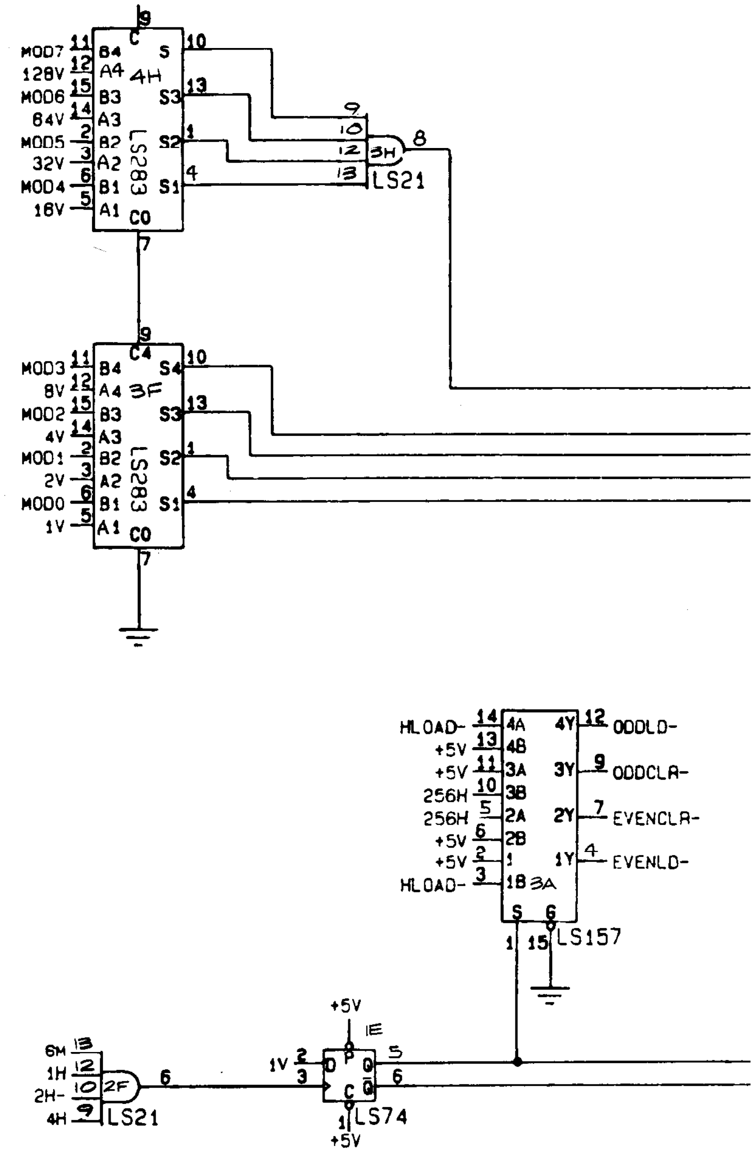
Food Fight Motion Object RAM Schematic Diagram

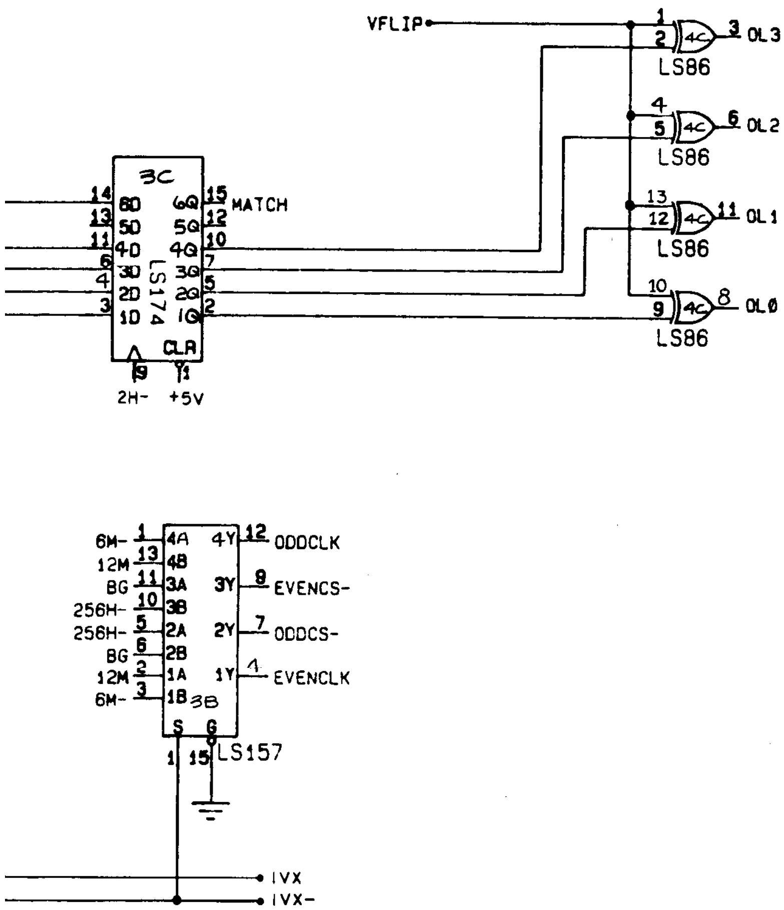
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SP-229 Sheet 7B

1st Printing


MOD7
128V
MOD6
64V
MOD5
32V
MOD4
16V
4H
LS283
3H
LS21
MOD3
8V
MOD2
4V
MOD1
2V
MOD0
1V
3F
LS283
HLOAD-
+5V
+5V
256H
256H
+5V
+5V
HLOAD-
ODDLD-
ODDCLR-
EVENCLR-
EVENLD-
3A
LS157
6M
1H
2H-
4H
2F
LS21
+5V
1V
1E
LS74
+5V



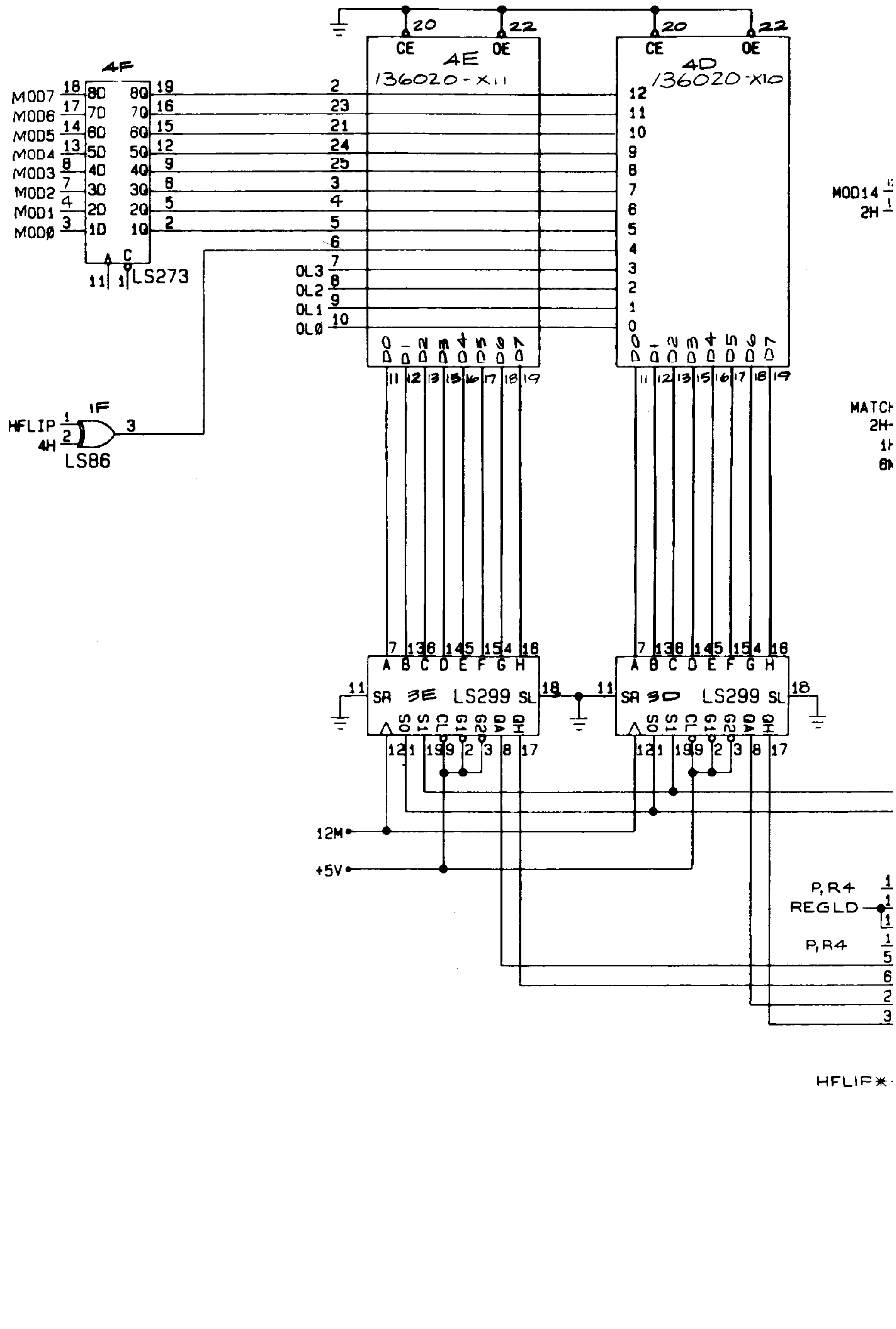
Food Fight Vertical Position Schematic Diagram

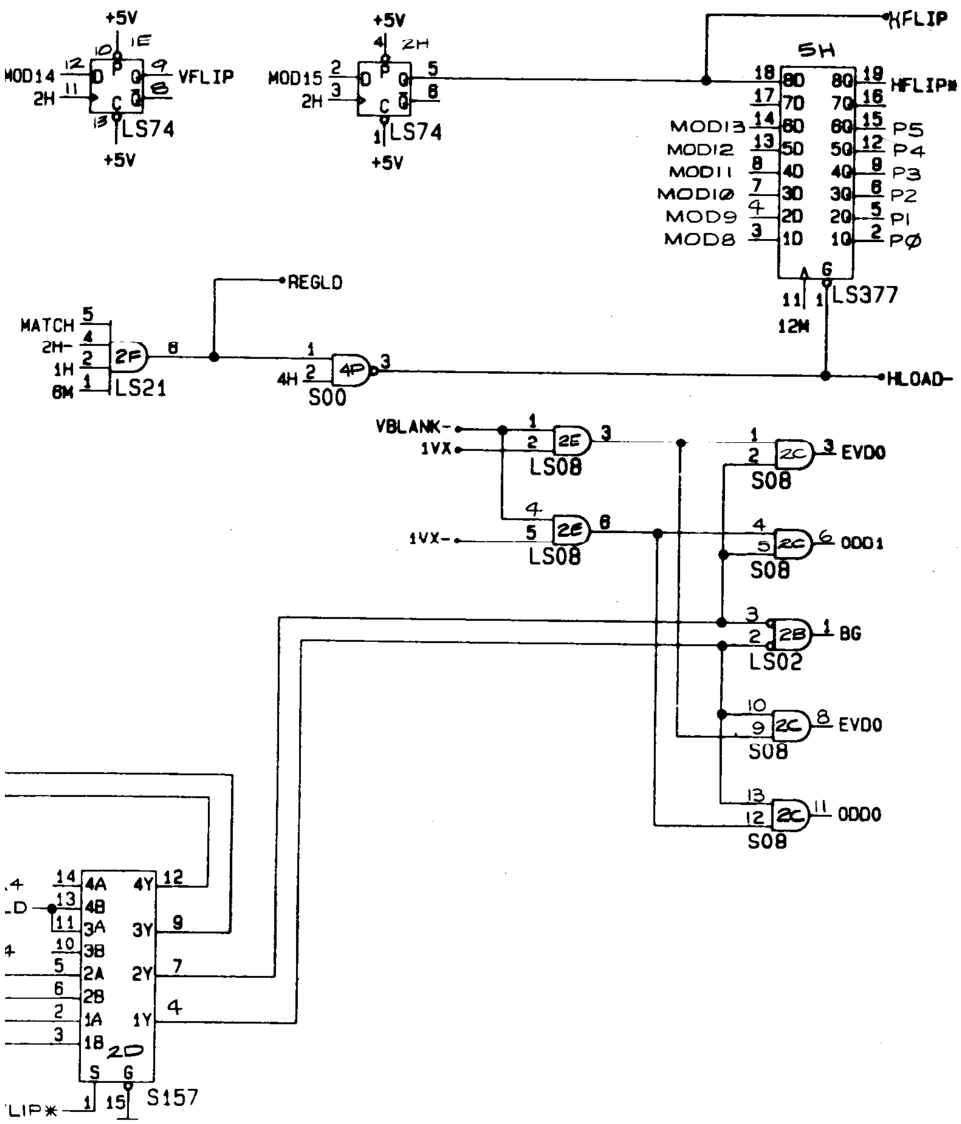
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4F
LS273
MOD7
MOD6
MOD5
MOD4
MOD3
MOD2
MOD1
MODØ
4E
136020-X11
4D
136020-X10
CE
OE
OL3
OL2
OL1
OLØ
1F
LS86
HFLIP
4H
3E
LS299
3D
LS299
12M
+5V
MOD14
2H
P, R4
REGLD
HFLIP*

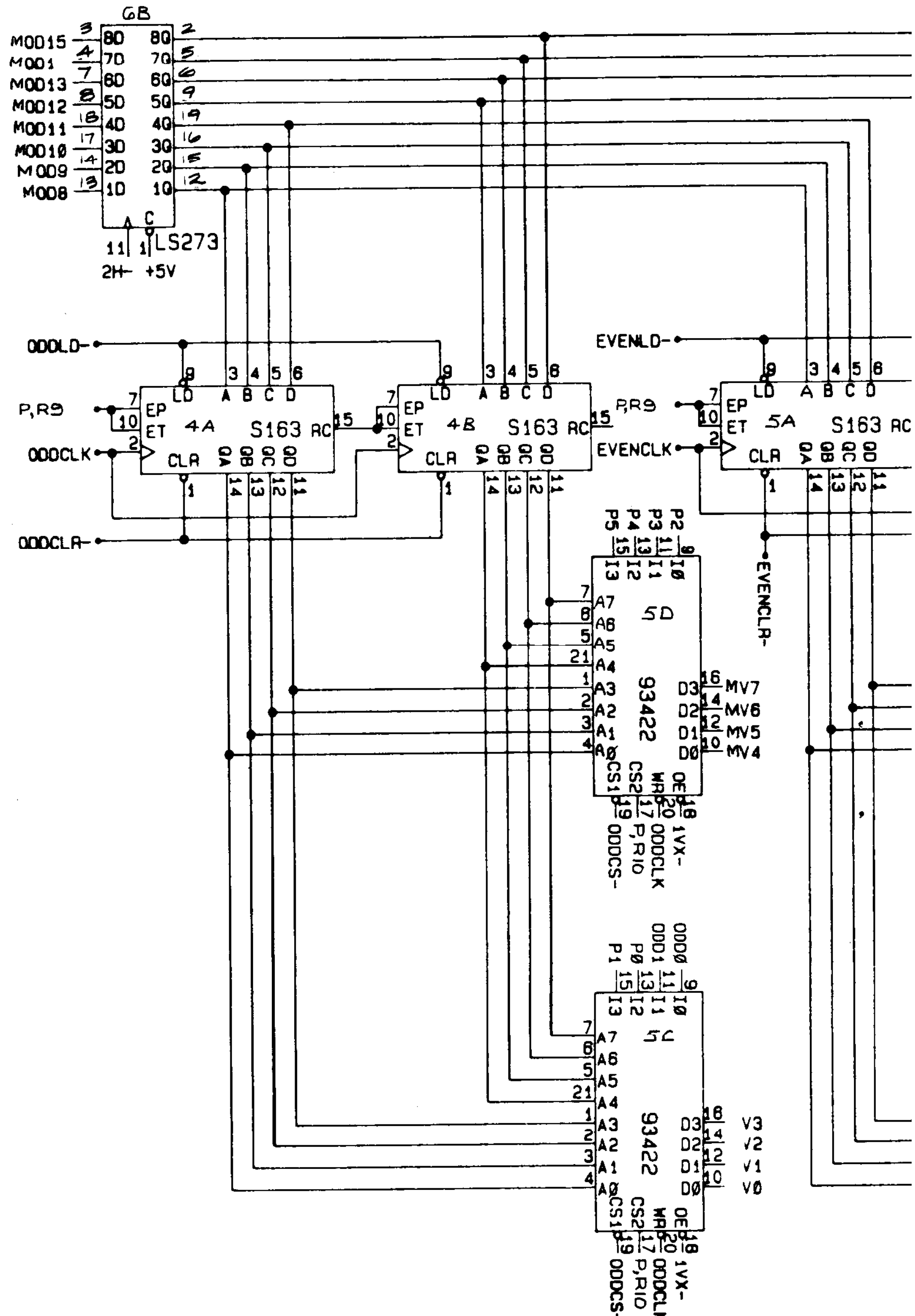


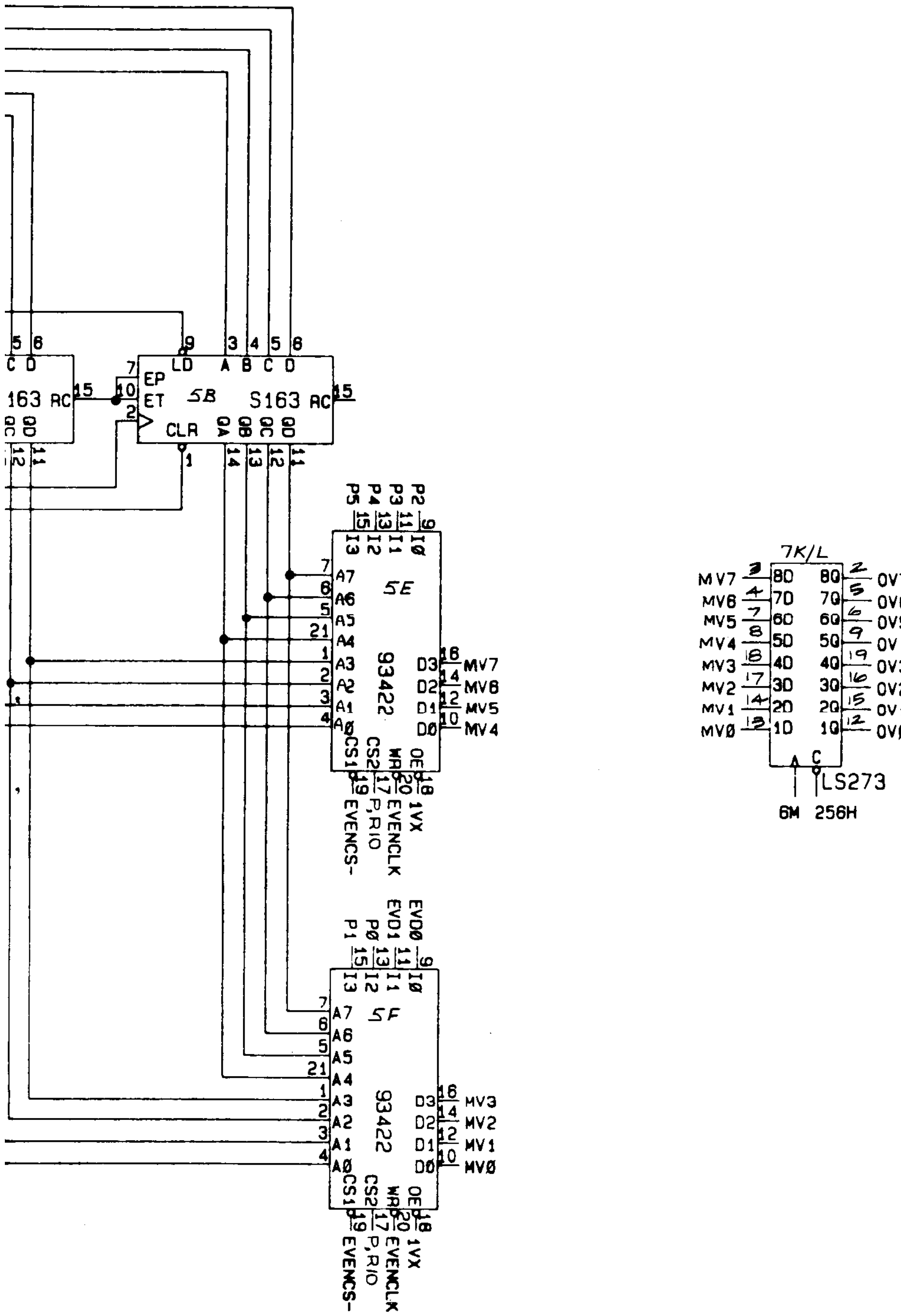
Food Fight Motion-Object ROM Schematic Diagram

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6B
LS273
MOD15
MOD1
MOD13
MOD12
MOD11
MOD10
MOD9
MOD8
2H-
+5V
ODDLD-
P,R9
ODDCLK
ODDCLR-
4A
S163
4B
S163
EVENLD-
EVENCLK
EVENCLR-
5A
S163
5D
93422
MV7
MV6
MV5
MV4
ODDCS-
P,R10
ODDCLK
1VX-
5C
93422
ODD0
ODD1
P0
P1
V3
V2
V1
V0



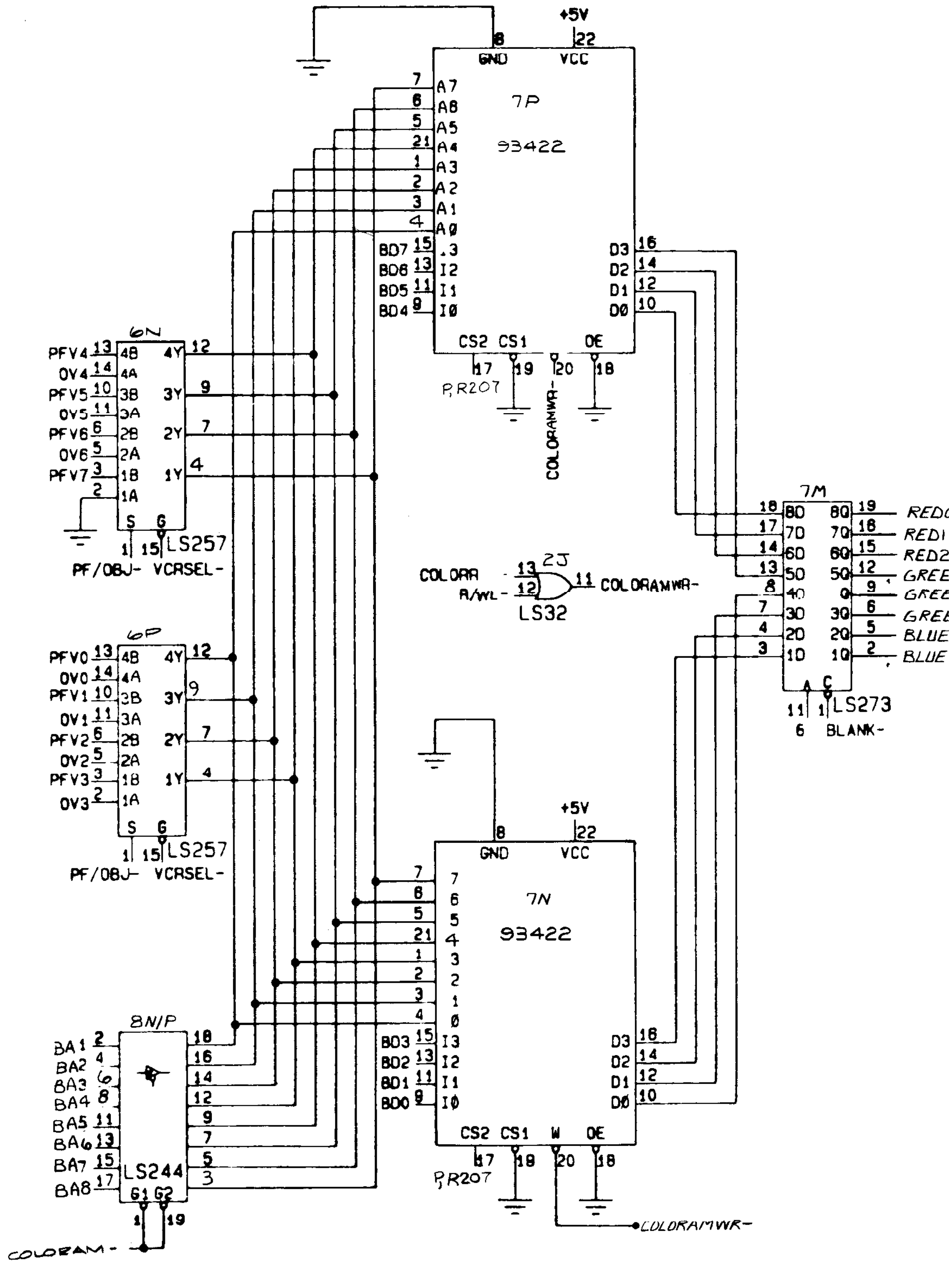
Food Fight Line Buffers Schematic Diagram

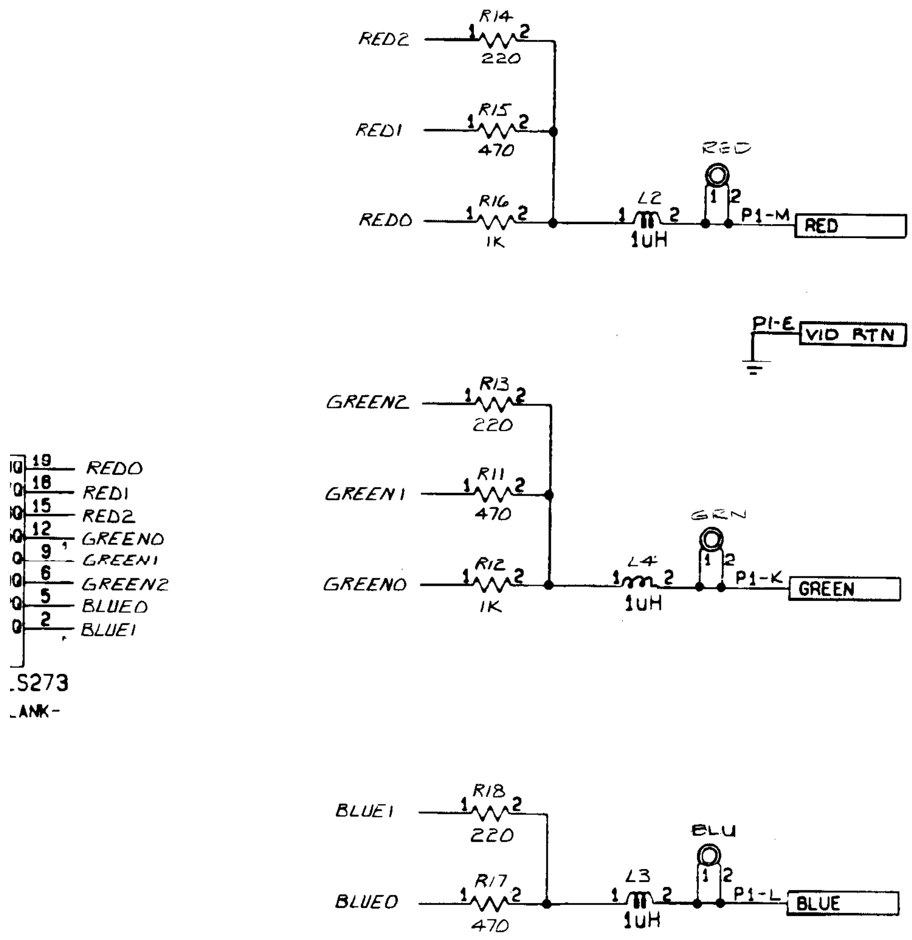
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+5V
GND
VCC
7P
93422
A7
A6
A5
A4
A3
A2
A1
A0
BD7
BD6
BD5
BD4
D3
D2
D1
D0
CS2
CS1
OE
P,R207
COLORAMWR-
6N
PFV4
OV4
PFV5
OV5
PFV6
OV6
PFV7
LS257
PF/OBJ-
VCRSEL-
7M
RED0
RED1
RED2
GREE
GREE
GREE
BLUE
BLUE
LS273
BLANK-
2J
COLORR
R/WL-
COLORAMWR-
LS32
6P
PFV0
OV0
PFV1
OV1
PFV2
OV2
PFV3
OV3
7N
93422
BD3
BD2
BD1
BD0
W
8N/P
BA1
BA2
BA3
BA4
BA5
BA6
BA7
BA8
LS244
G1
G2
COLORAM-



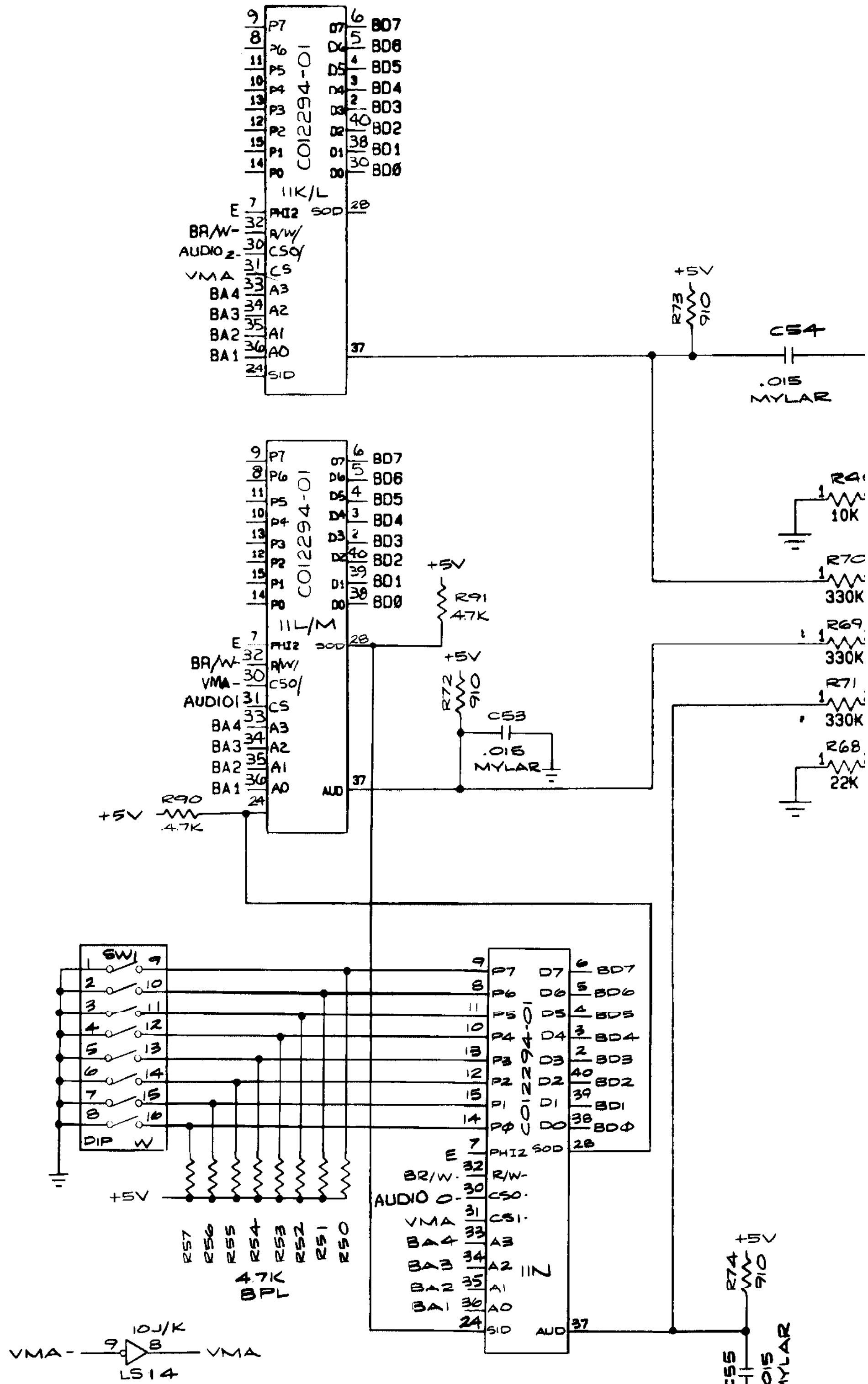
Food Fight Color RAM Schematic Diagram

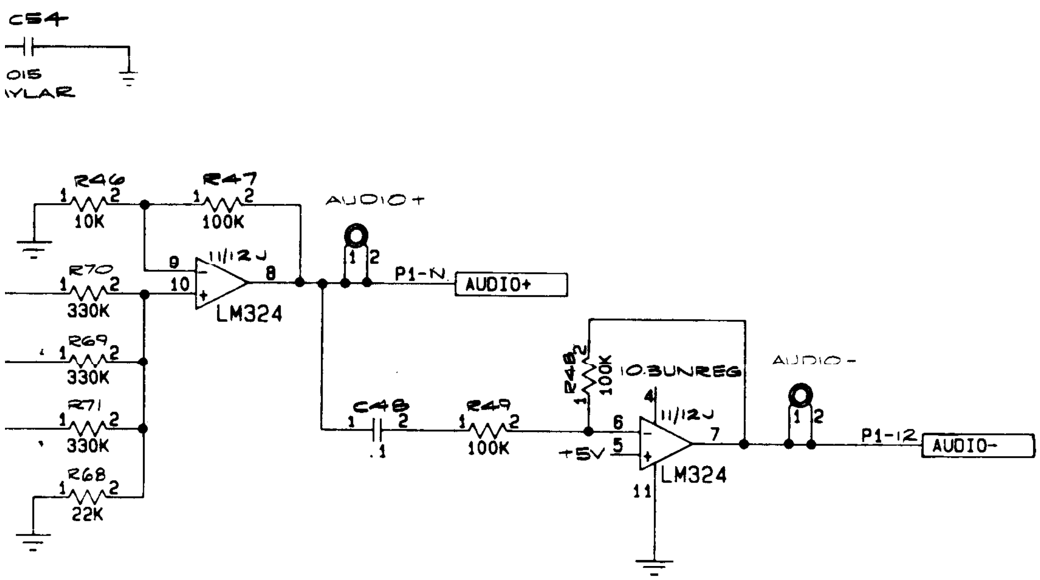
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1st Printing

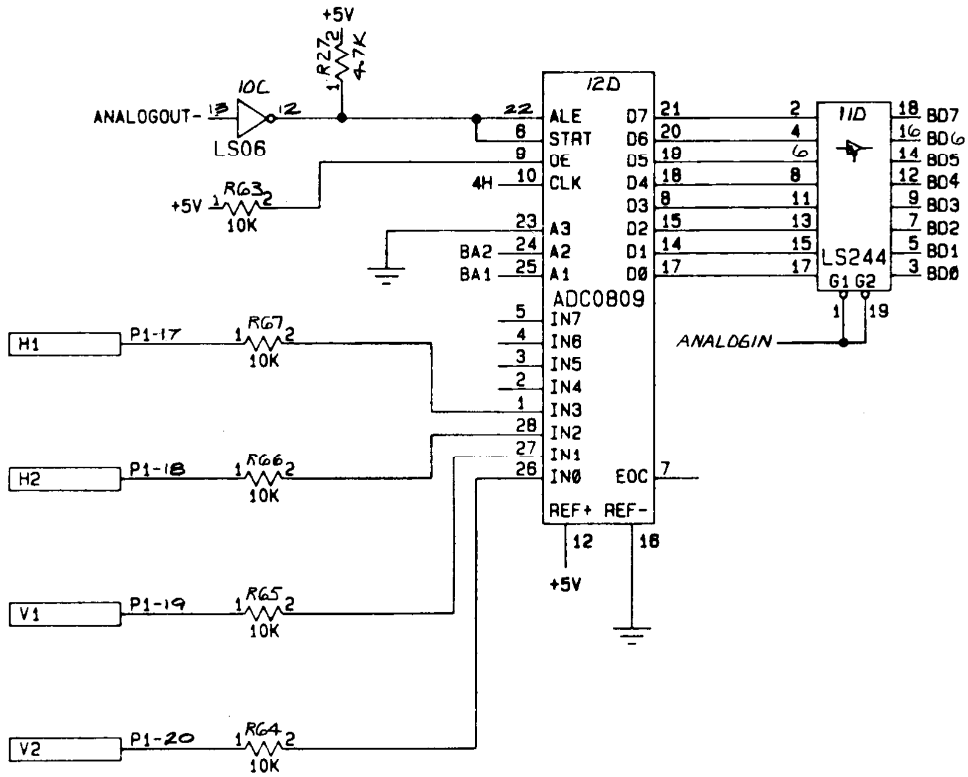

CO12294-01
11K/L
CO12294-01
11L/M
CO12294-01
11N
P7 P6 P5 P4 P3 P2 P1 P0
D7 D6 D5 D4 D3 D2 D1 D0
BD7 BD6 BD5 BD4 BD3 BD2 BD1 BDØ
PHI2
SOD
R/W/
CS0/
CS
A3 A2 A1 A0
SID
AUD
E
BR/W-
AUDIO 2-
AUDIO1
AUDIO 0-
VMA
VMA-
BA4 BA3 BA2 BA1
+5V
R73
910
C54
.015 MYLAR
R91
4.7K
R72
910
C53
.015 MYLAR
R90
4.7K
R70
330K
R69
330K
R71
330K
R68
22K
10K
SW1
DIP SW
R57 R56 R55 R54 R53 R52 R51 R50
4.7K 8PL
R74
910
C55
.015 MYLAR
10J/K
LS14



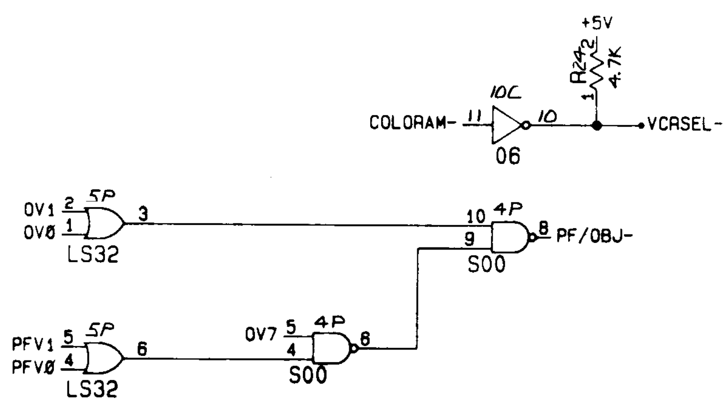
Food Fight Sound Schematic Diagram

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ANALOGOUT-
10C
LS06
+5V
R27
4.7K
+5V
R63
10K
12D
ALE
STRT
OE
CLK
4H
A3
A2
A1
BA2
BA1
ADC0809
IN7
IN6
IN5
IN4
IN3
IN2
IN1
IN0
EOC
REF+
REF-
D7
D6
D5
D4
D3
D2
D1
D0
11D
LS244
G1 G2
ANALOGIN
BD7
BD6
BD5
BD4
BD3
BD2
BD1
BD0
H1
P1-17
R67
10K
H2
P1-18
R66
10K
V1
P1-19
R65
10K
V2
P1-20
R64
10K



Food Fight Analog Inputs Schematic Diagram

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Schematic Notes

Unless otherwise specified

Resistance: (Ω) (K→KΩ, M→MΩ), 1/4 (W) carbon resistor

Capacitance: 1 or higher→ (pF), less than 1→ (μF)
working voltage→ 50 (V)
ceramic capacitor

Inductance: (μH)

Electrolytic Cap: Capacitance Value (μF)/working voltage (V),
NP → non-polar (or bipolar) electrolytic cap.

Refer to the parts list for additional component information.

⚲ indicates test point connection

⏚ indicates chassis ground unless otherwise specified

Hz indicates cycles per second

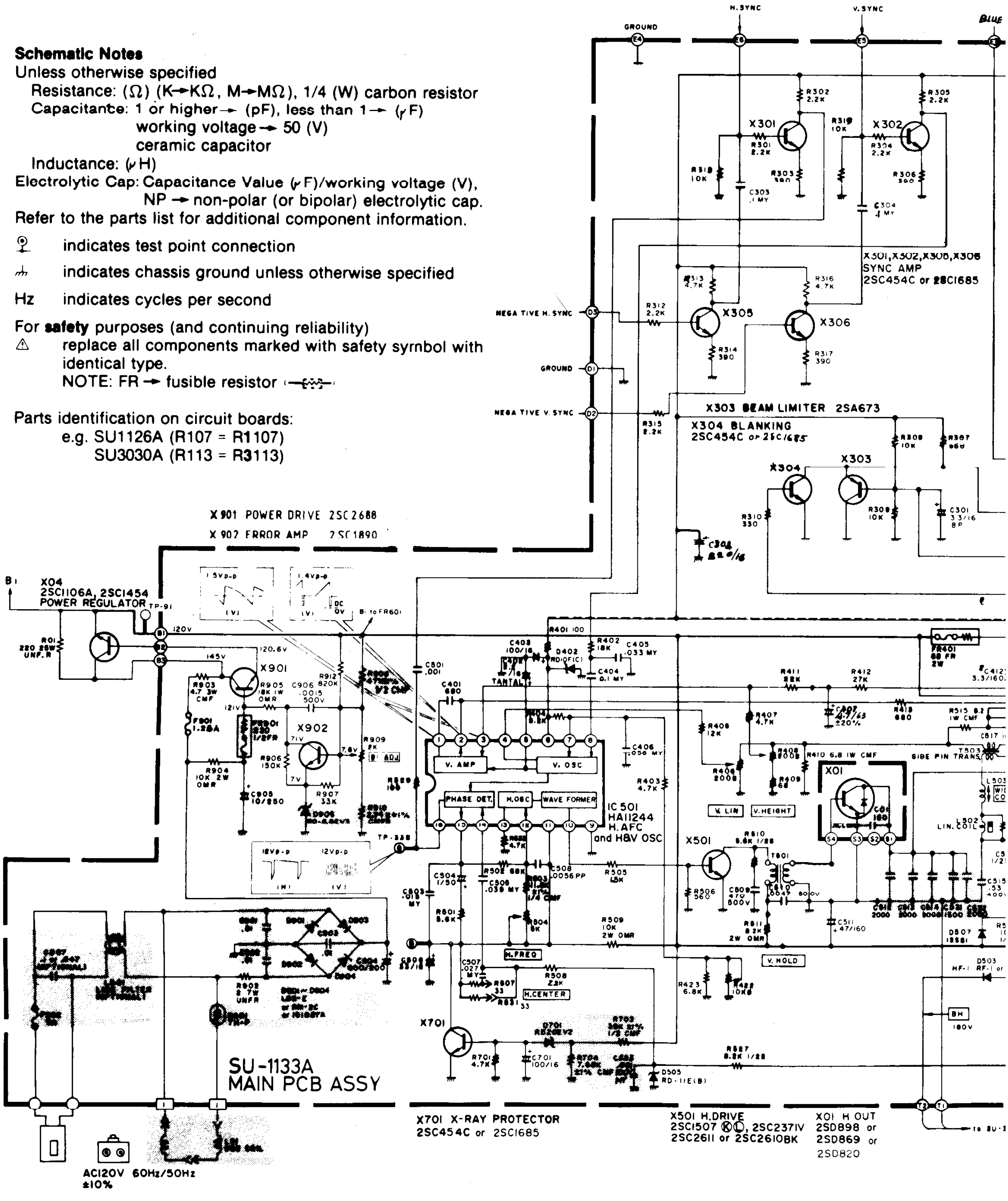
For **safety** purposes (and continuing reliability)

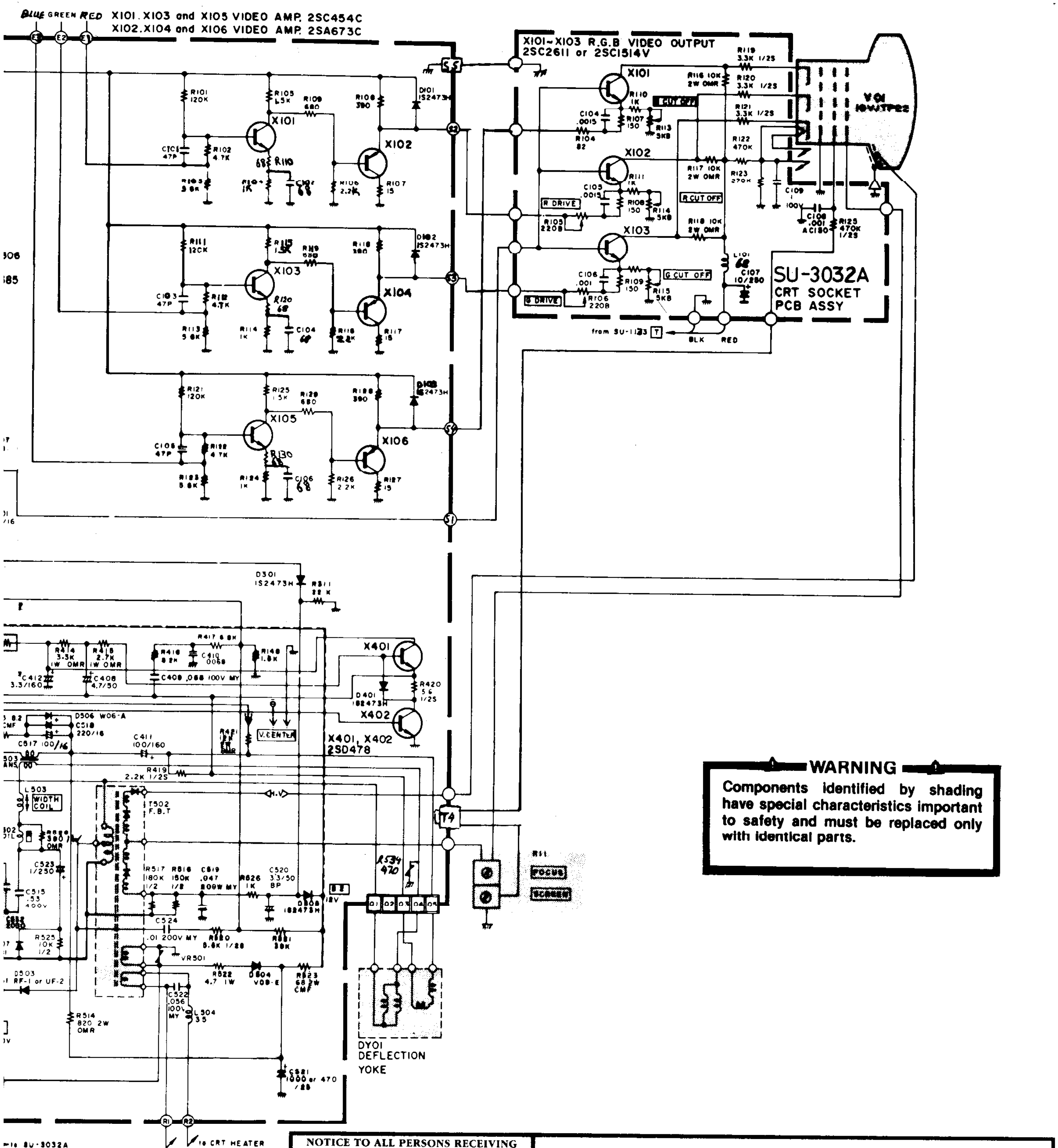
⚠ replace all components marked with safety symbol with identical type.

NOTE: FR → fusible resistor

Parts identification on circuit boards:

e.g. SU1126A (R107 = R1107)
SU3030A (R113 = R3113)





WARNING

Components identified by shading have special characteristics important to safety and must be replaced only with identical parts.

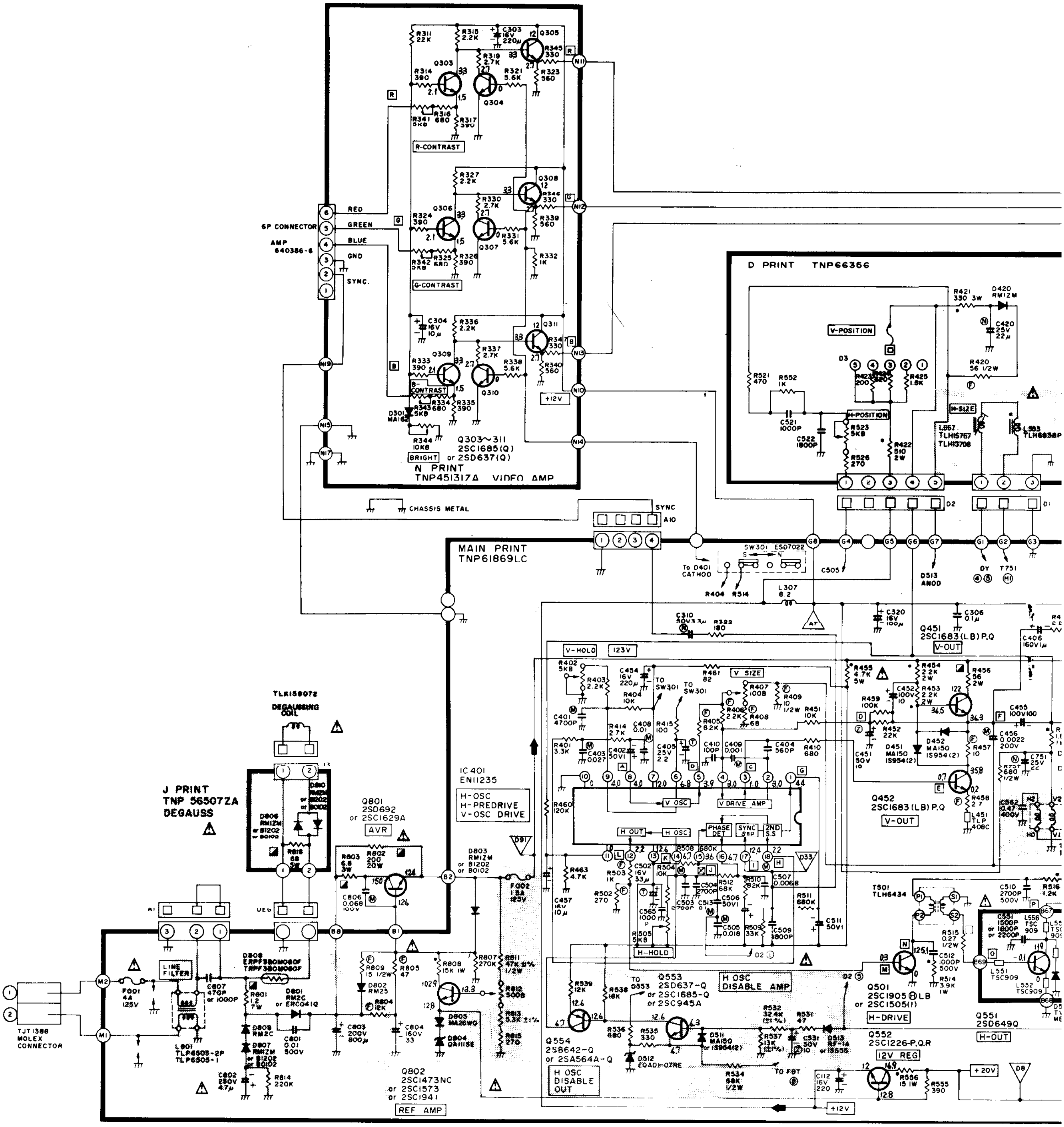
Electrohome Color Raster Display Schematic Diagram

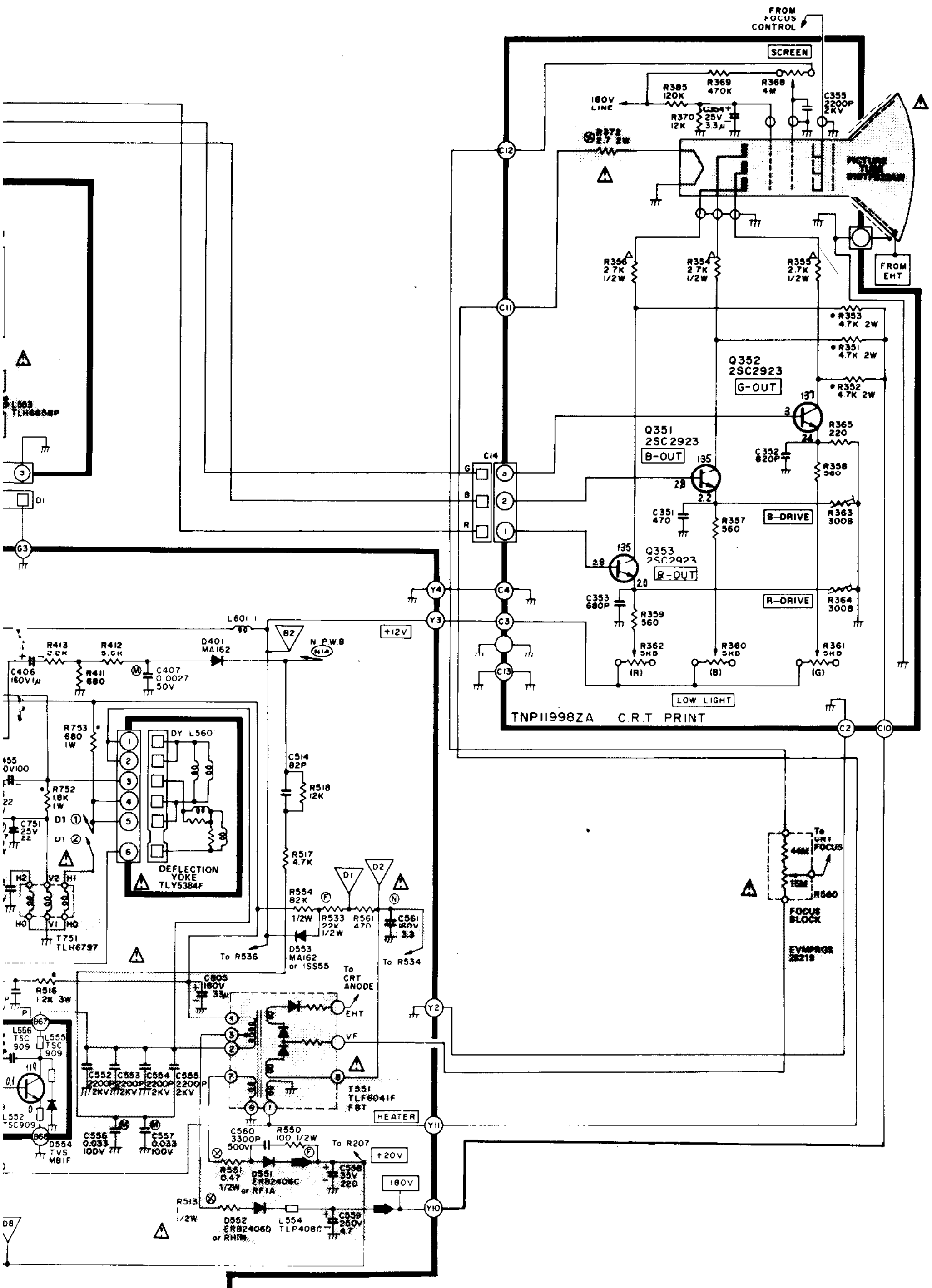
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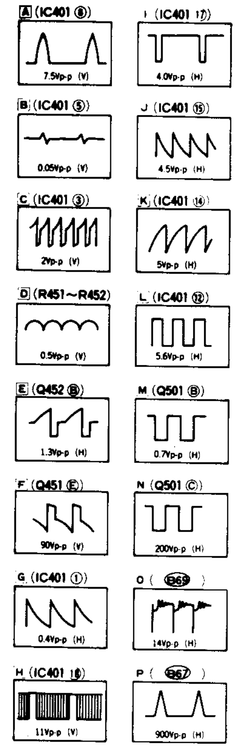
SP-229 Sheet 11A

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N PRINT
TNP451317A VIDEO AMP
D PRINT TNP66356
MAIN PRINT
TNP61869LC
J PRINT
TNP 56507ZA
DEGAUSS
IC 401
EN11235
H-OSC
H-PREDRIVE
V-OSC DRIVE
6P CONNECTOR
AMP
640386-6
TJT1388
MOLEX
CONNECTOR
DEGAUSSING
COIL
CHASSIS METAL
R-CONTRAST
G-CONTRAST
BRIGHT
V-POSITION
H-POSITION
H-SIZE
V-HOLD
V SIZE
H-HOLD
H OSC
DISABLE AMP
H OSC
DISABLE
OUT
REF AMP
AVR
V-OUT
H-DRIVE
H-OUT
12V REG
Q303~311
2SC1685(Q)
or 2SD637(Q)



Waveform



NOTE

1. RESISTOR
   All resistors are carbon 1/4W resistor, unless otherwise noted the following marks.
   Unit of resistance is OHM (Ω). (K = 1,000, M = 1,000,000)
   - △ Solid
   - ● Metal Oxide
   - ▢ Wire Wound
   - Thermistor
   - F Non-Flamble
   - Fuse
   - ◪ Cement
2. CAPACITOR
   All capacitors are ceramic 50V capacitor, unless otherwise noted the following marks.
   Unit of capacitance is μF, unless otherwise noted
   - Electrolytic
   - V Safety Vent
   - Polystyrene
   - Bipolar
   - Titanium Oxide
   - ⊠ Polypro pylene
   - Z Z type
   - ● Temp Compensation
   - T Dipped Tantalum
   - M Polyester
3. COIL
   Unit of inductance is μH
4. TEST POINT
   - Test point position

⚠ WARNING ⚠

Components identified by shading have special characteristics important to safety and must be replaced only with identical parts.

Matsushita Color Raster Display Schematic Diagram

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SP-229 Sheet 11B

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